

FIG. 1

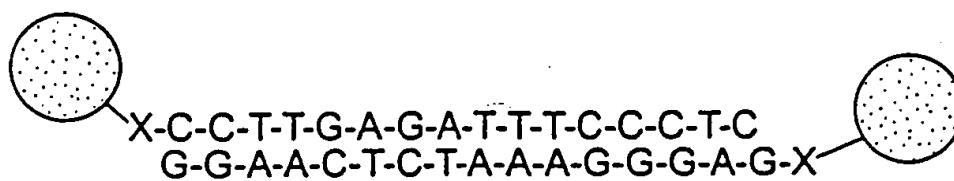
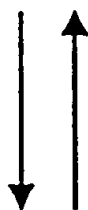
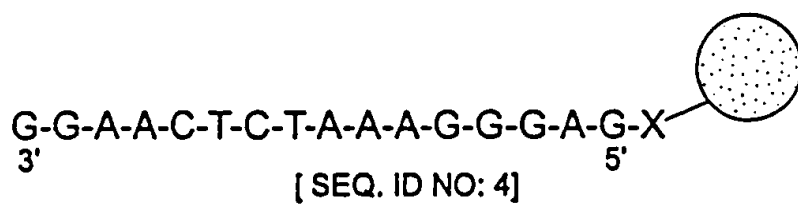
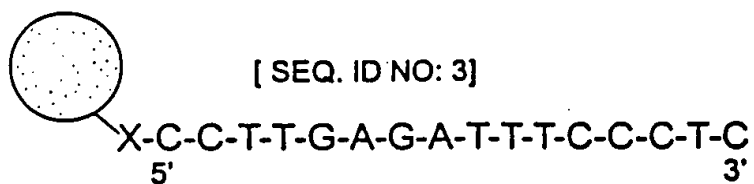


FIG. 1

FIG.2

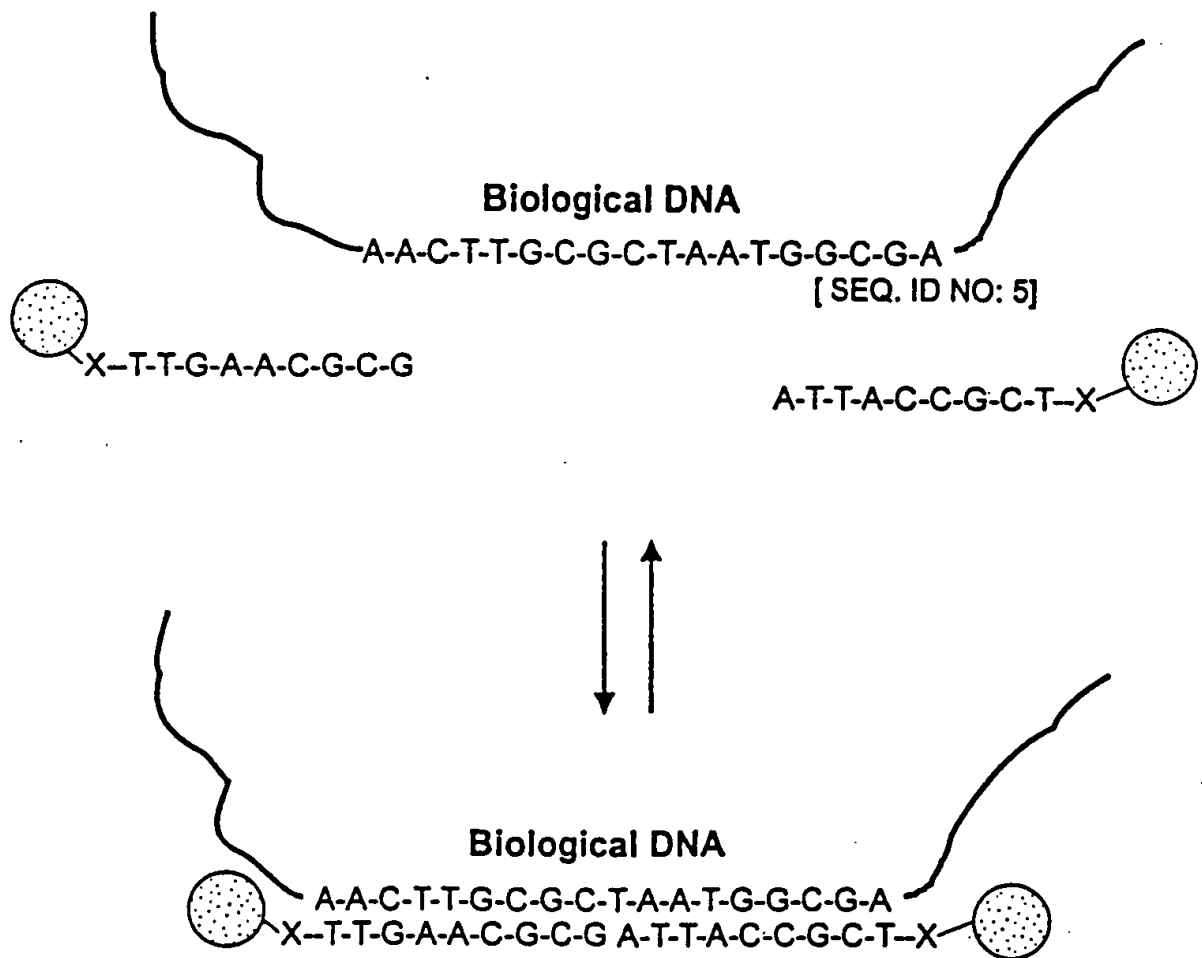


FIG. 2

FIG.3

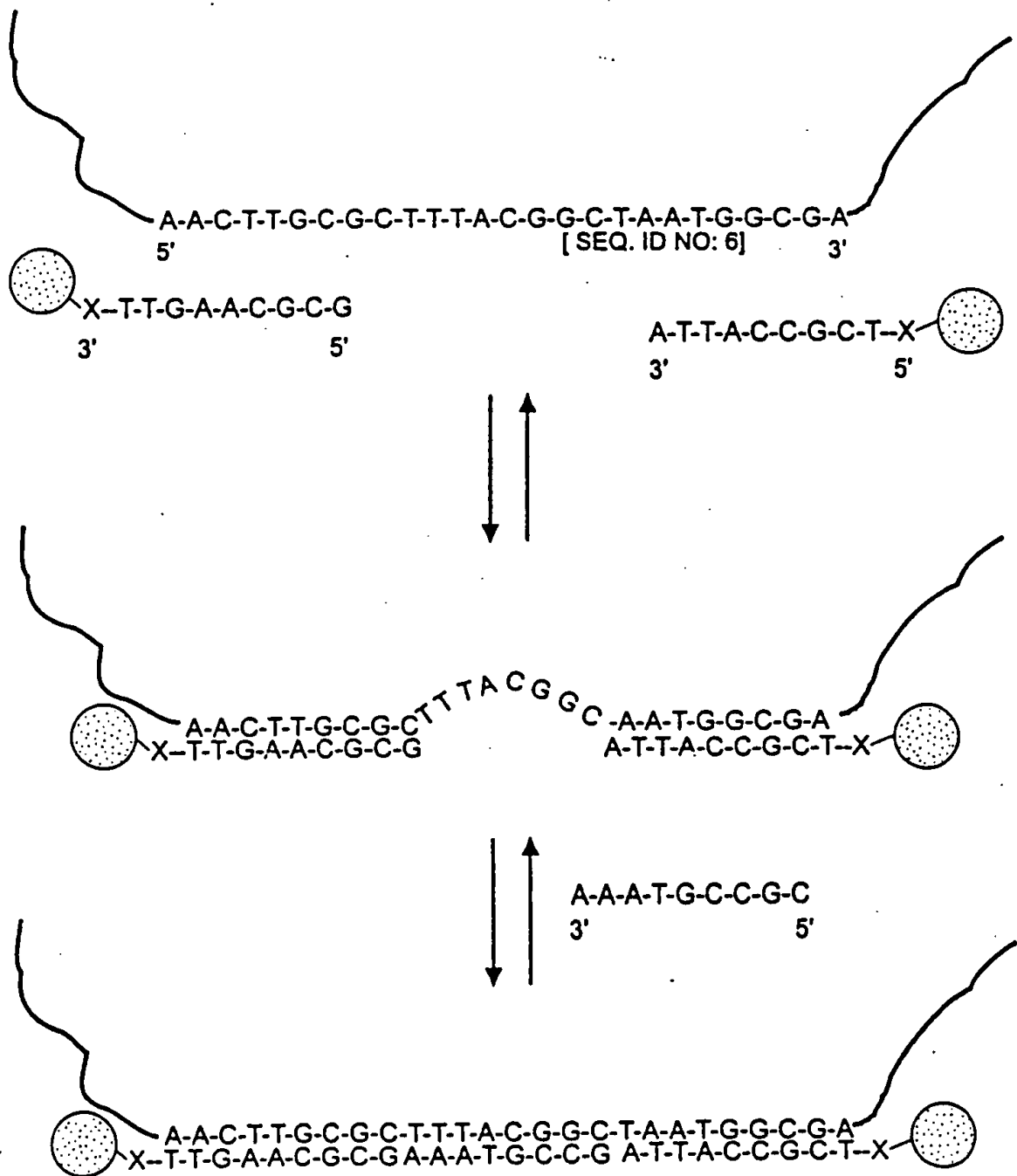


FIG. 3

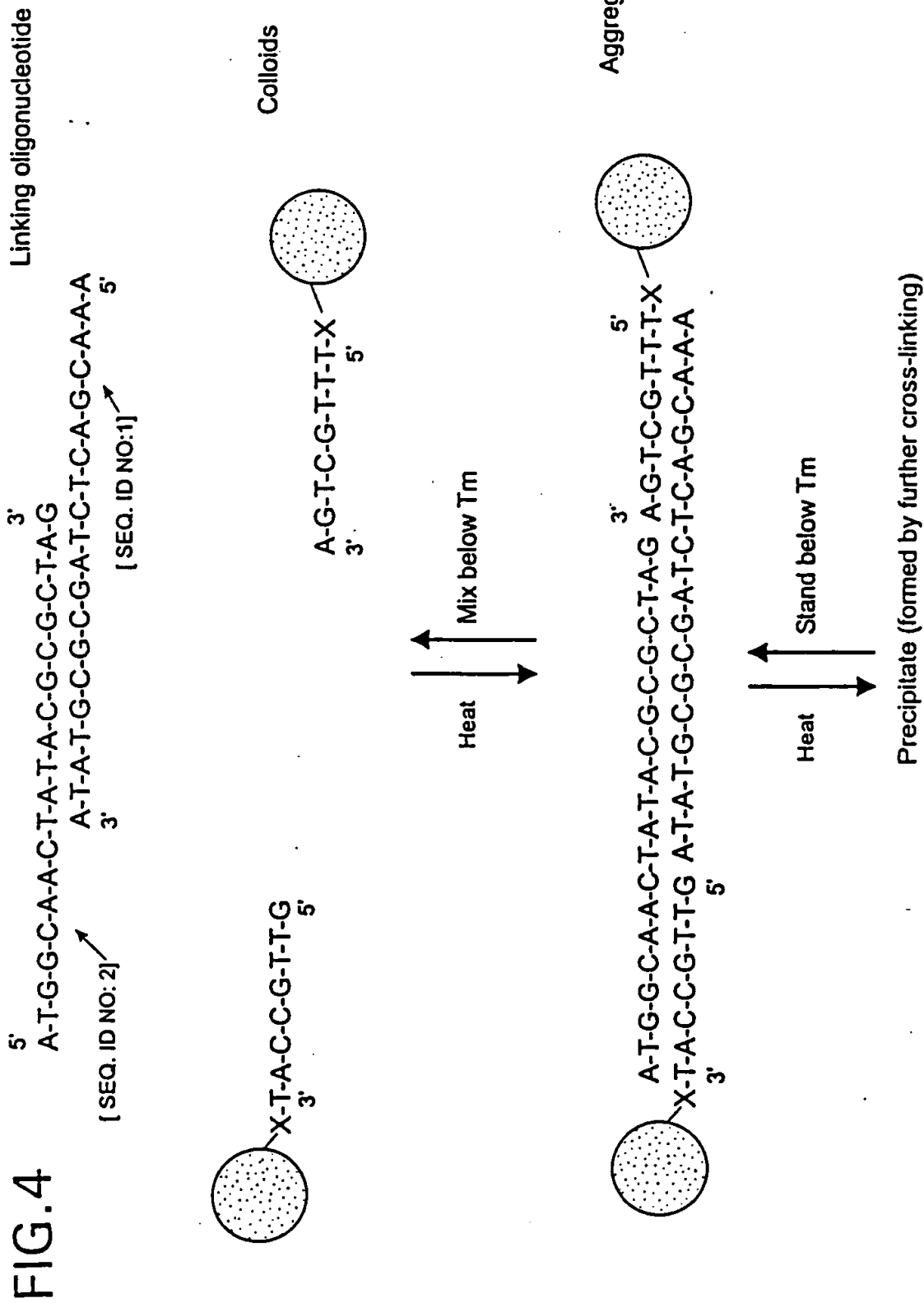
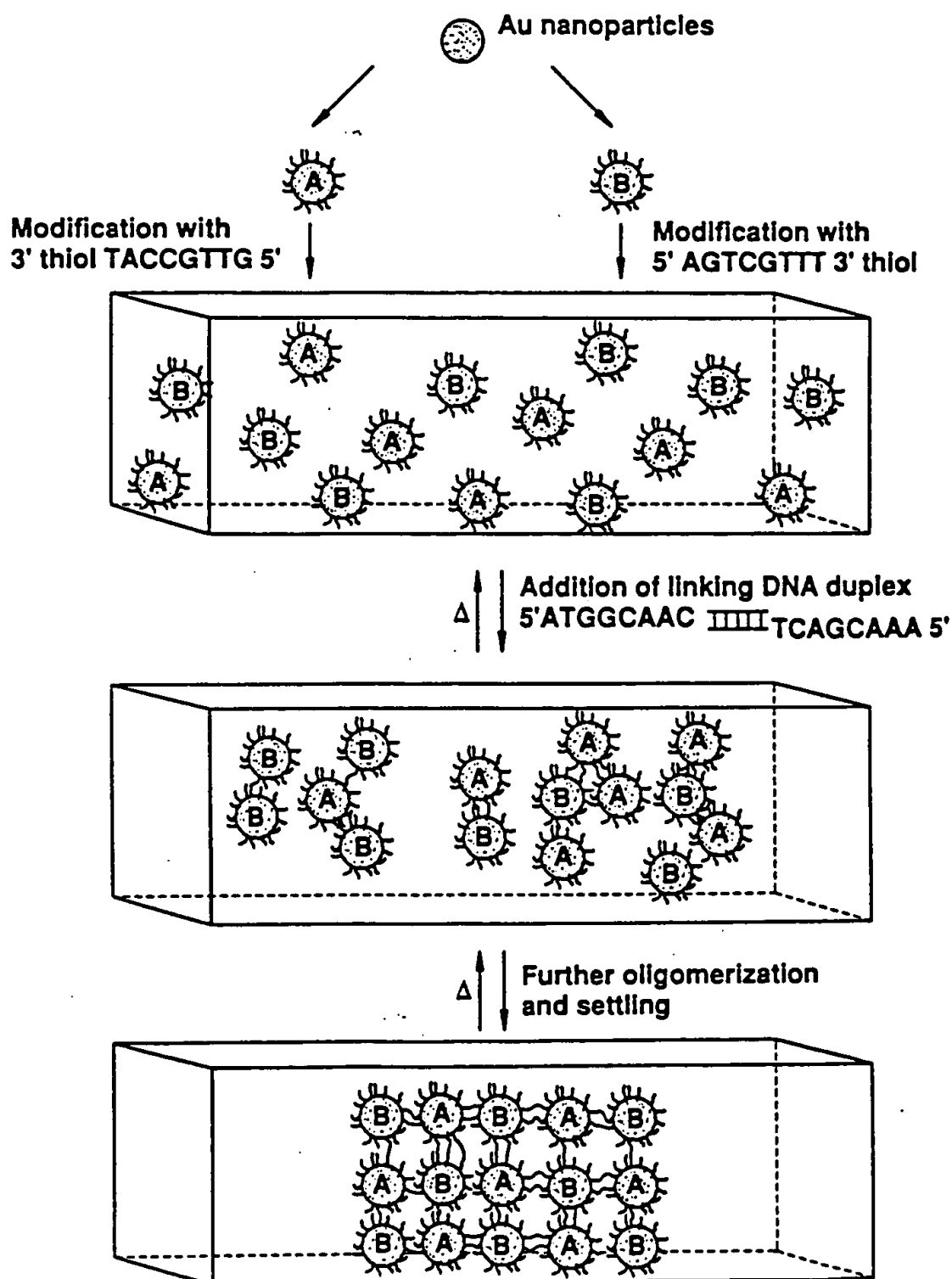


FIG.5



102701" 00694660

FIG. 6A FIG. 6B FIG. 6C



FIG. 6A FIG. 6B FIG. 6C

FIG. 7

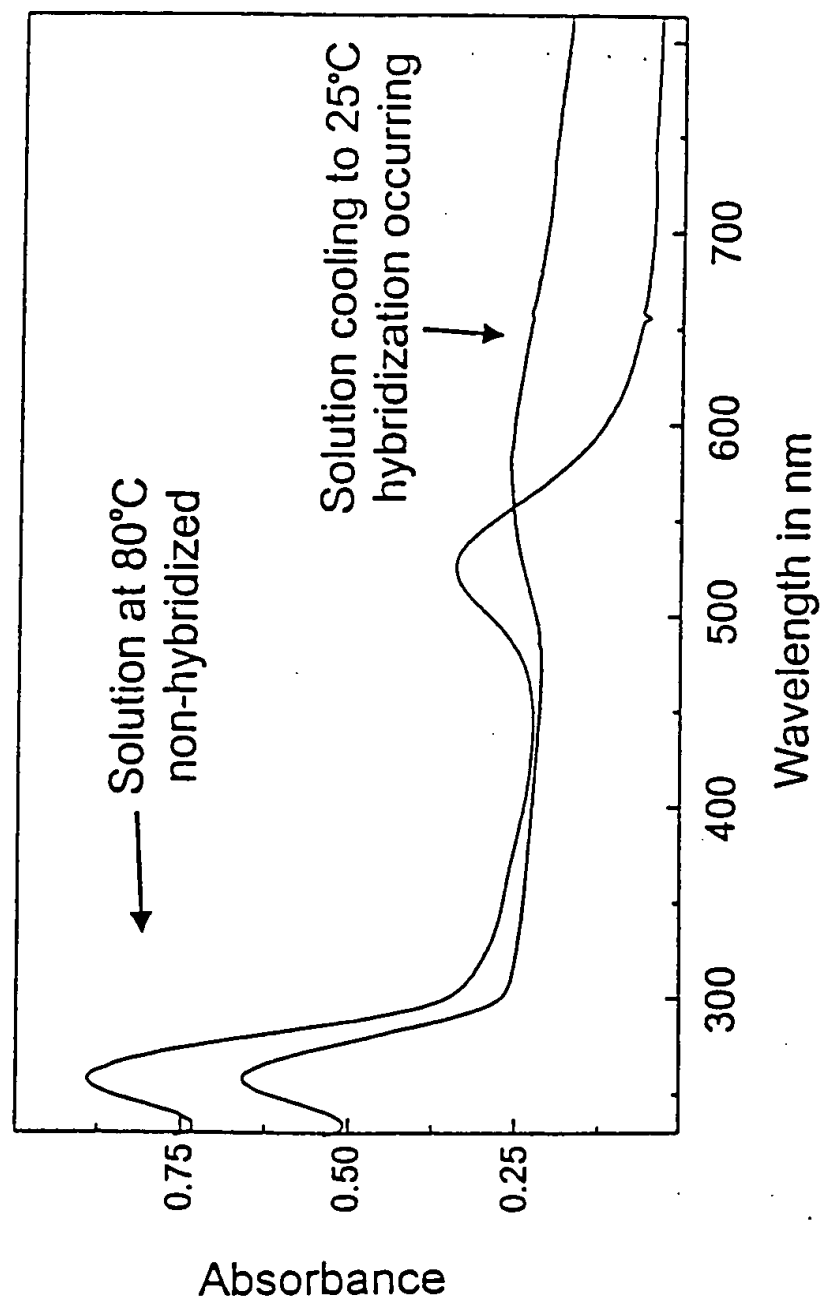


FIG. 8A

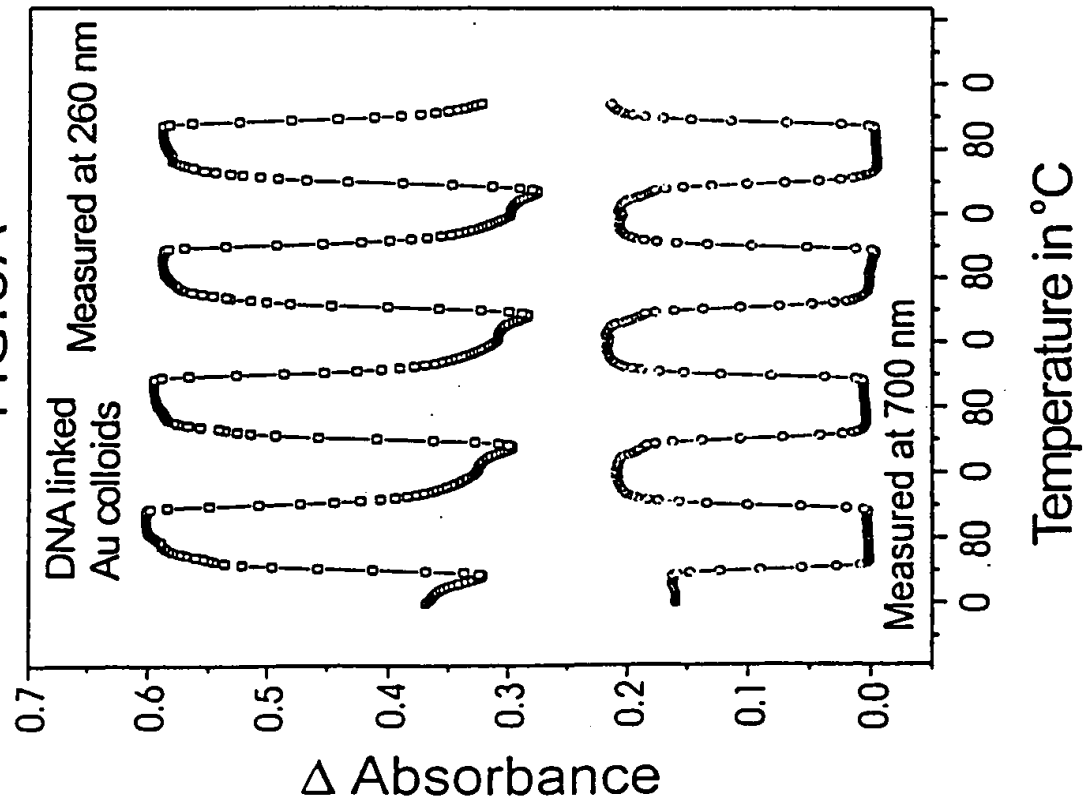
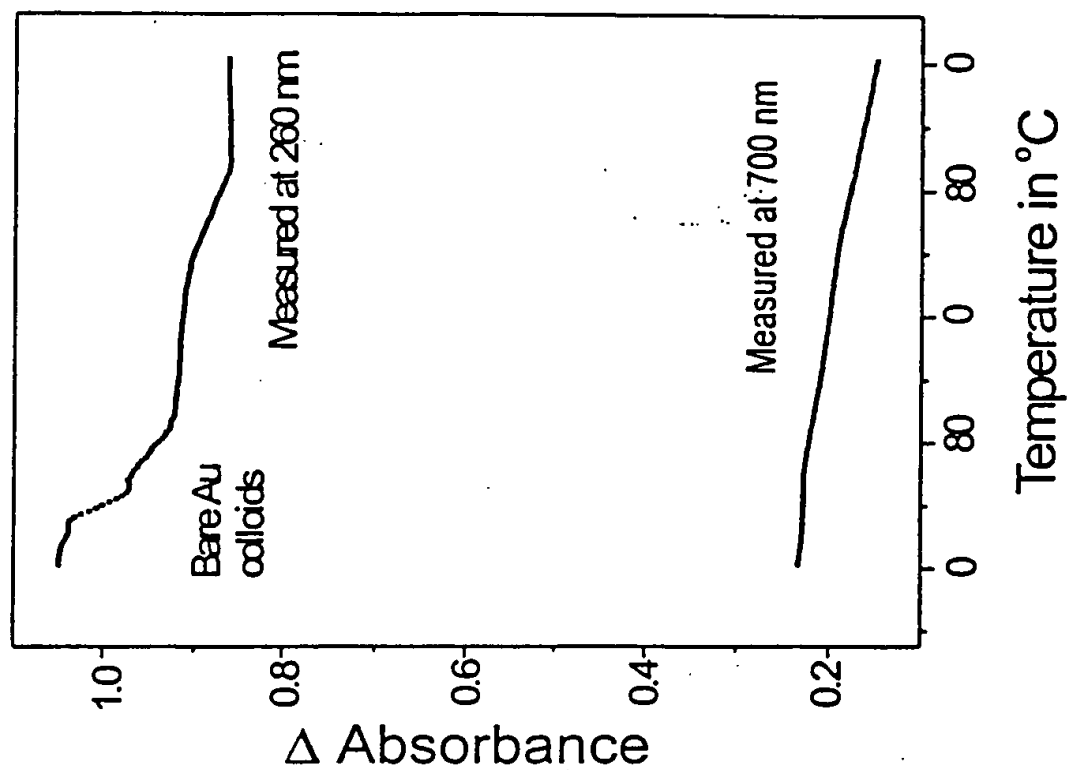


FIG. 8B



00076900-101201
FOI b7D b7C b7E

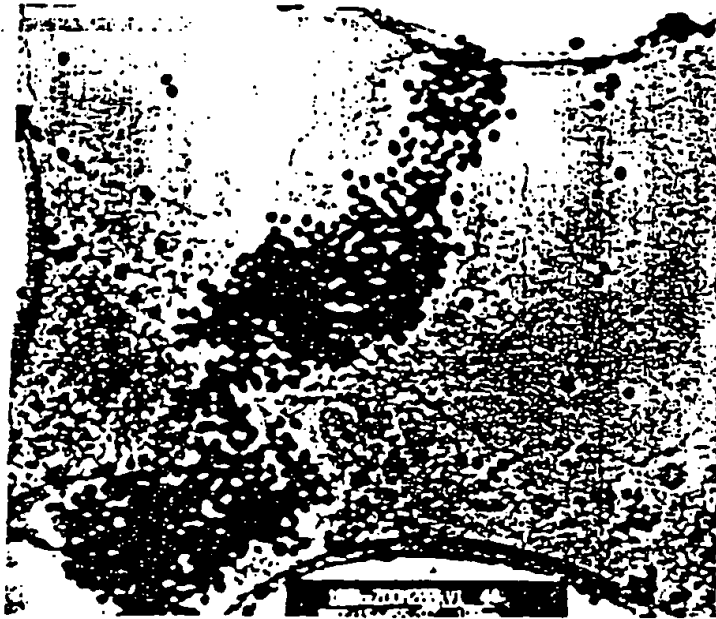


FIG.9A

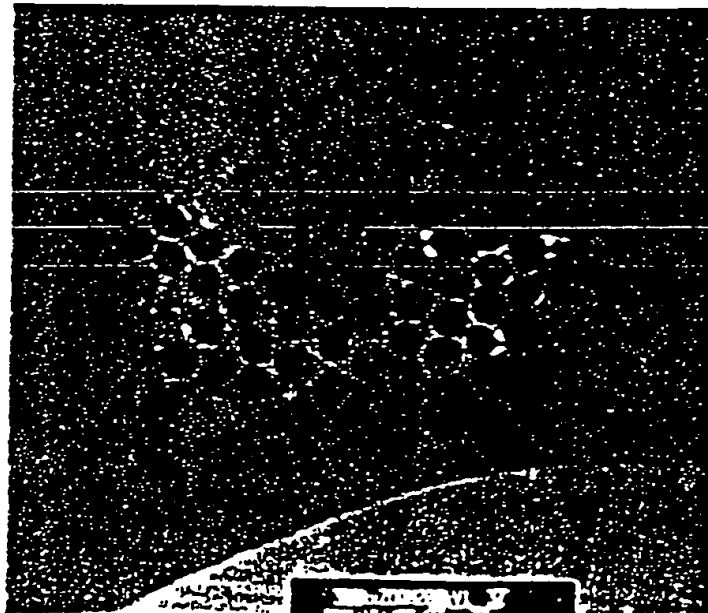


FIG.9B

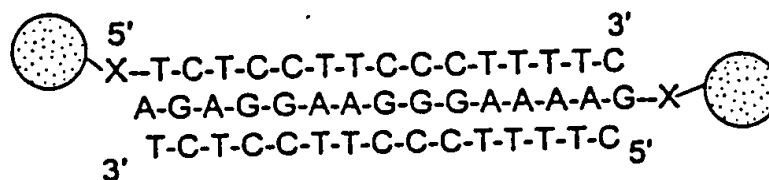
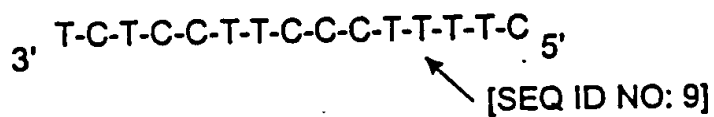
[illegible]

FIG. 11

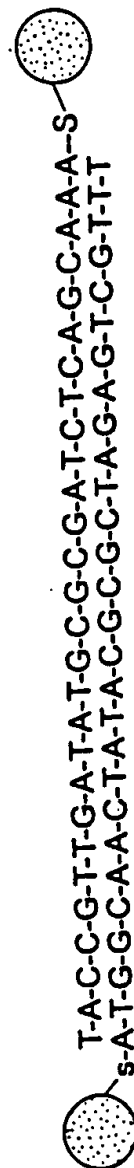
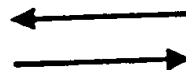
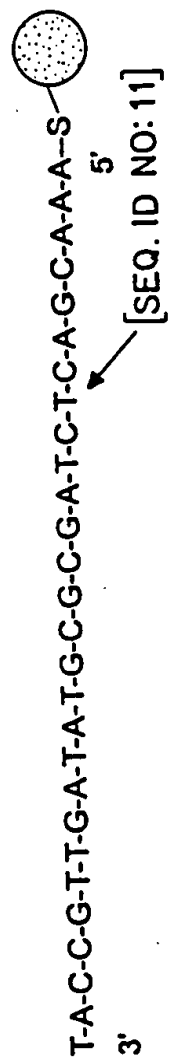
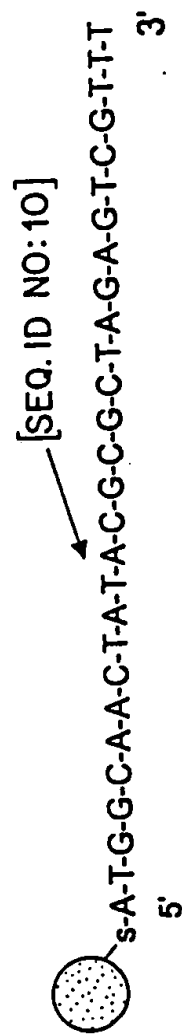


FIG. 12A

Complementary Target

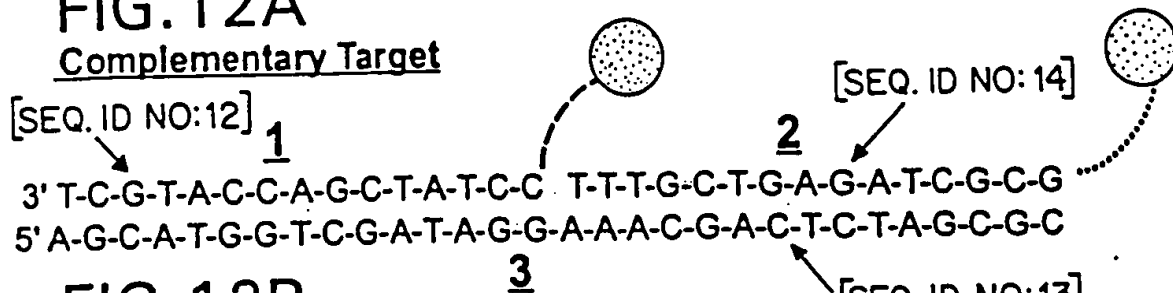


FIG. 12B

Probes without Target



FIG. 12C

Half Complementary Target

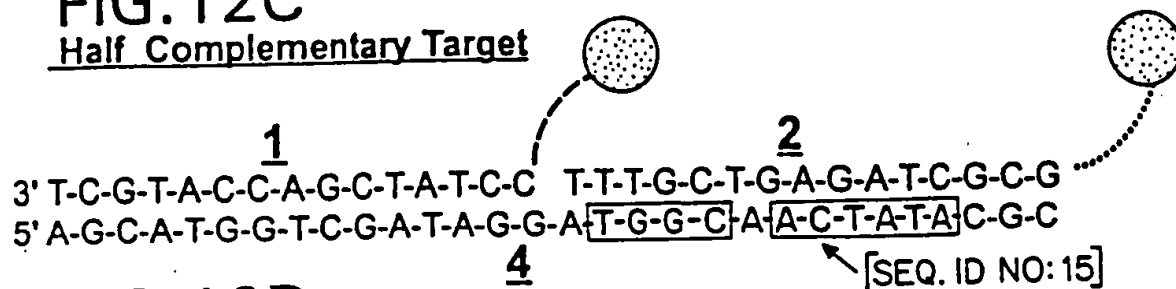


FIG. 12D

Target - 6 bp

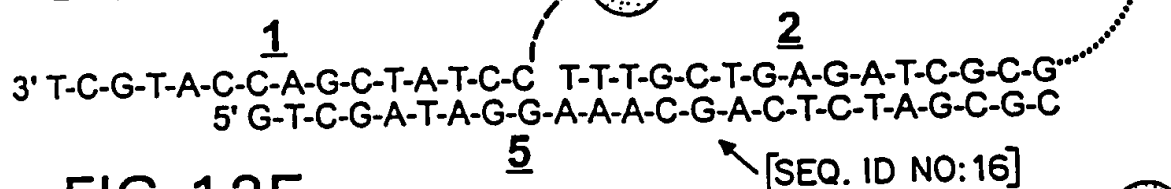


FIG. 12E

One bp Mismatch

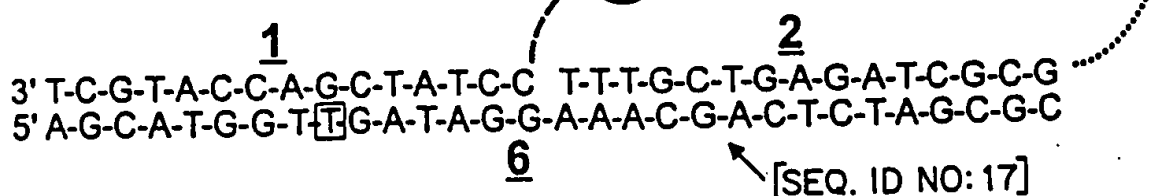


FIG. 12F

Two bp Mismatch

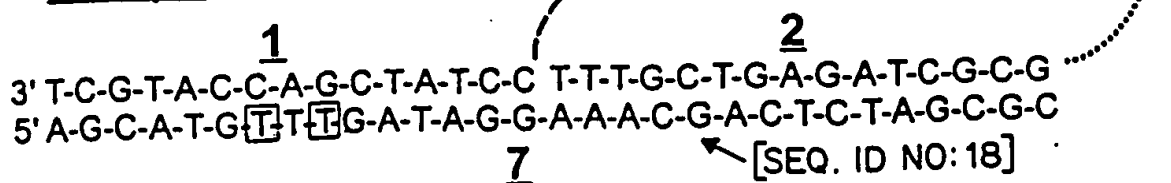
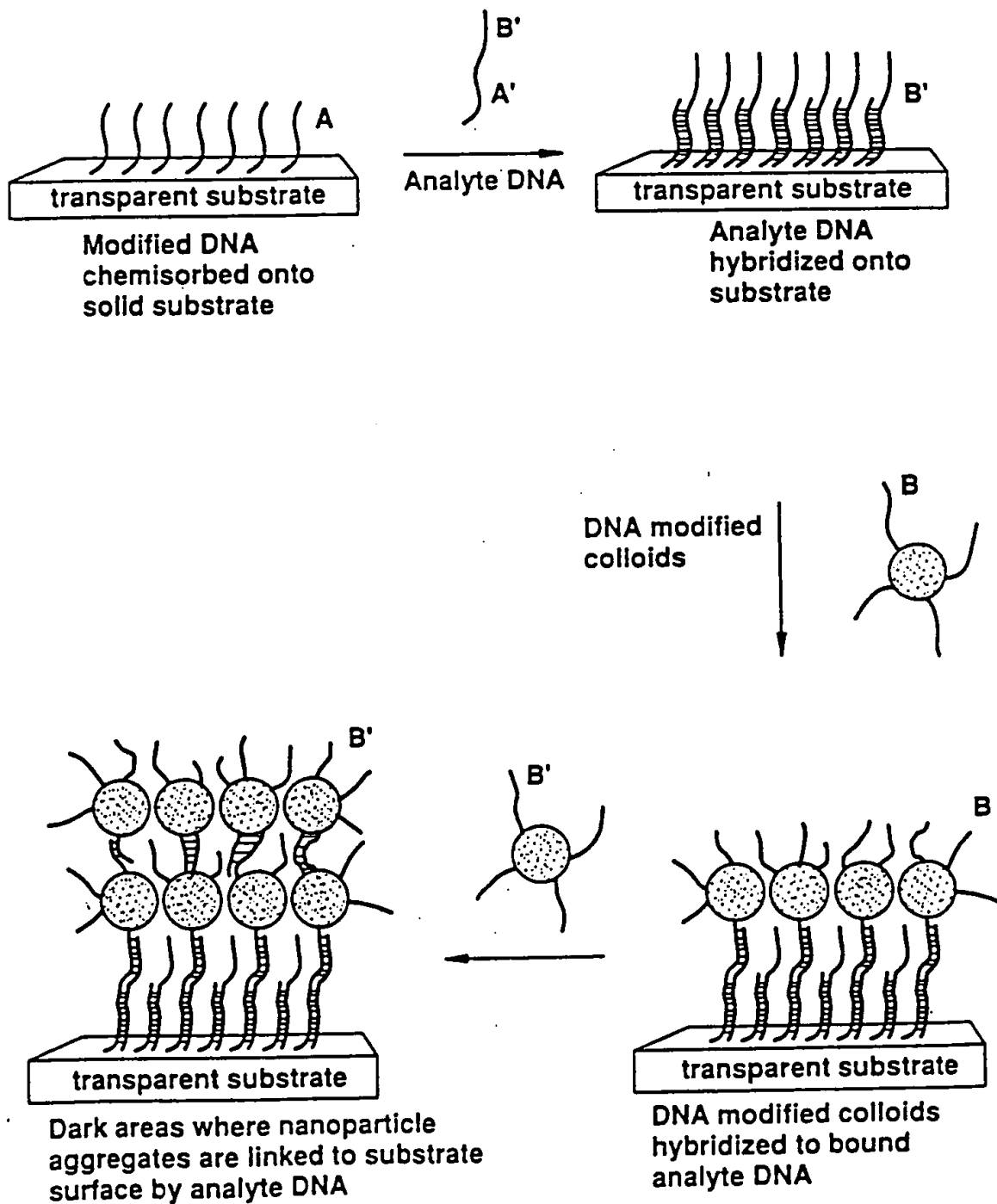
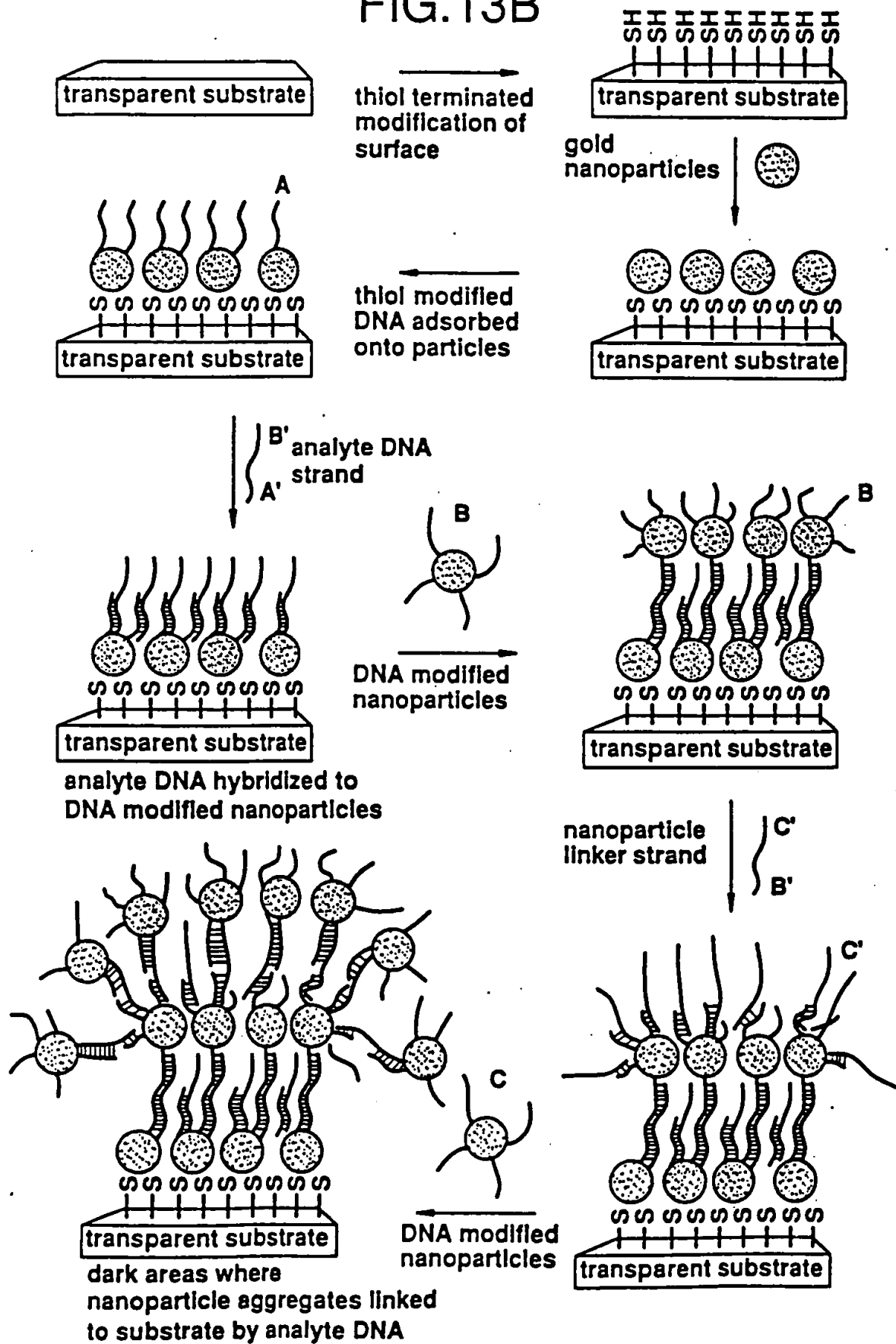


FIG.13A



09976900-101201

FIG.13B



202500-101204

FIG.14A

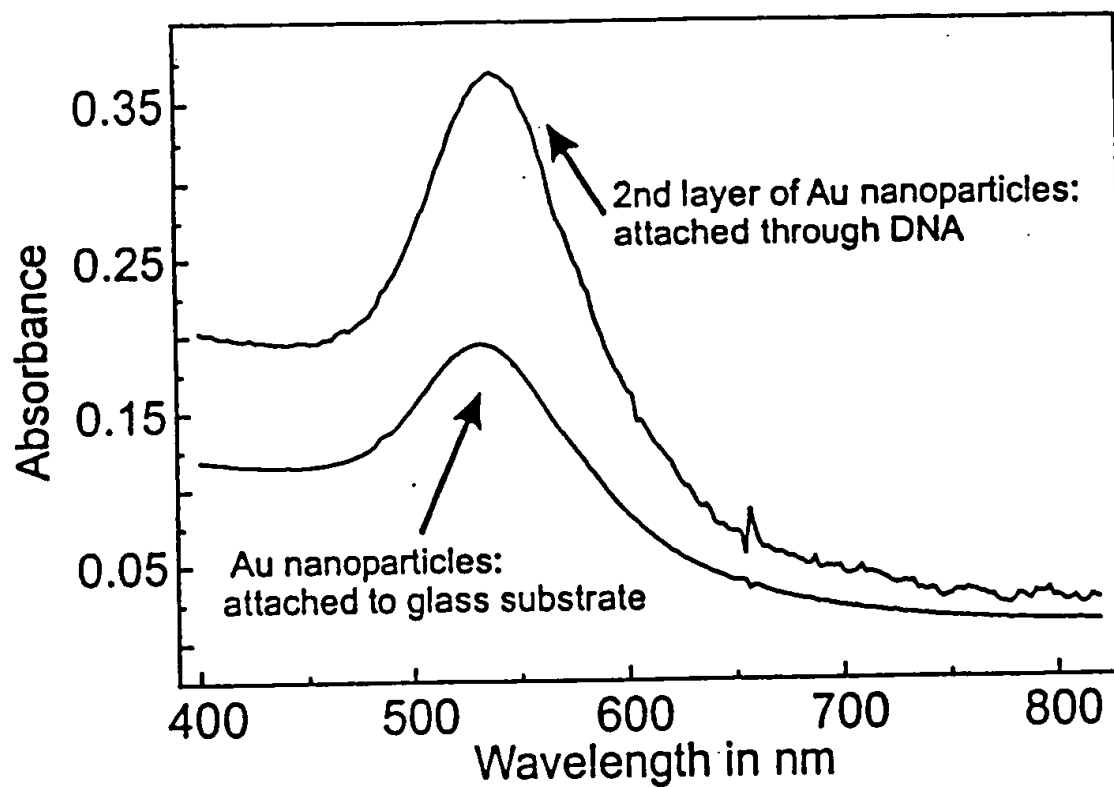


FIG.14B

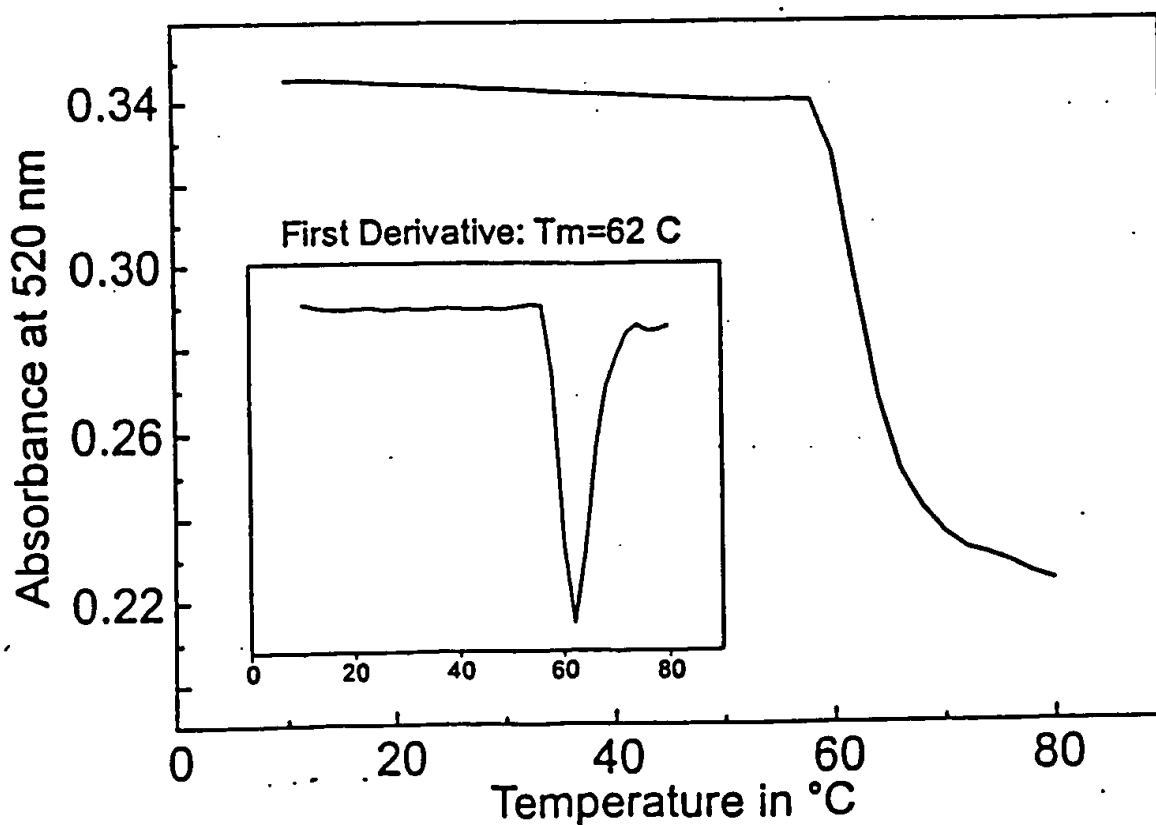


FIG15A

Probes with No Target

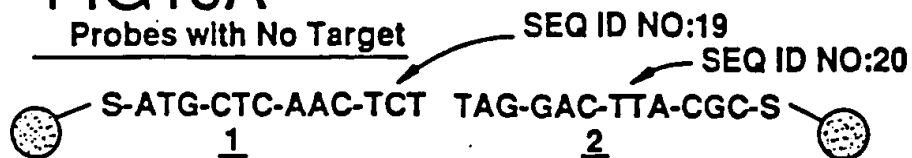


FIG15B

Half-Complementary Target

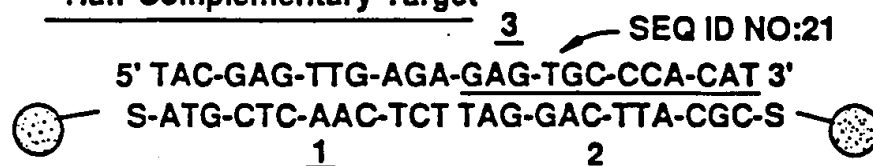


FIG15C

Complementary Target

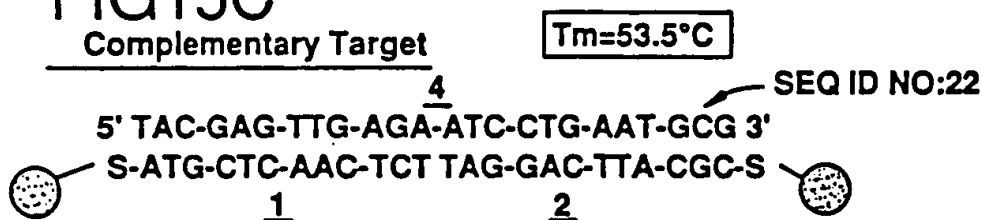


FIG15D

ONE Base-Pair Mismatch at Probe Head

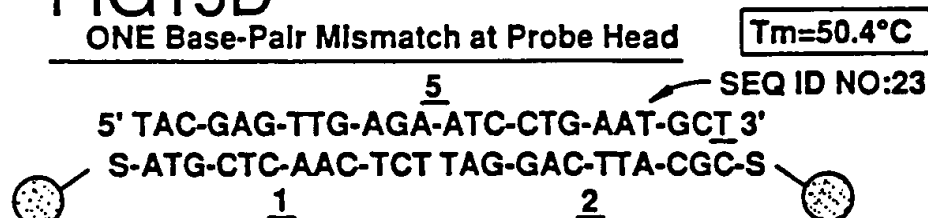


FIG15E

ONE Base-Pair Mismatch at Probe Tail

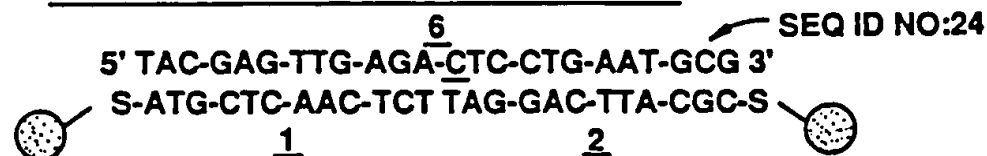


FIG15F

ONE Base Deletion

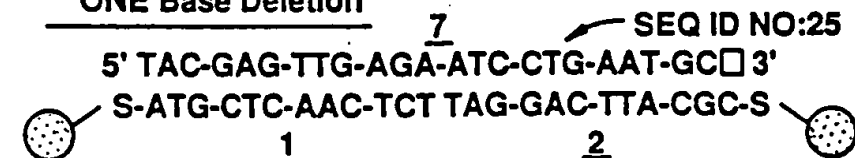


FIG15G

ONE Base-Pair Insertion

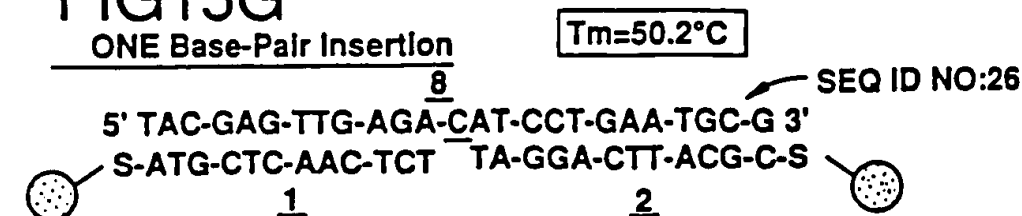


FIG. 16A

24 Base Template

5' TAC-GAG-TTG-AGA-ATC-CTG-AAT-GCG 3'
 —S-ATG-CTC-AAC-TCT TAG-GAC-TTA-CGC-S —
 1 2

FIG. 16B

48 Base Template with Complementary 24 Base Filler

5' TAC-GAG-TTG-AGA-CCG-TTA-AGA-CGA-GGC-AAT-CAT-GCA-ATC-CTG-AAT-GCG 3'
 —S-ATG-CTC-AAC-TCT GGC-AAT-TCT-GCT-CCG-TTA-GTA-CGT TAG-GAC-TTA-CGC-S —
 1 2

FIG. 16C

72 Base Template with Complementary 48 Base Filler

5' TAC-GAG-TTG-AGA-CCG-TTA-AGA-CGA-GGC-AAT-CAT-GCA-TAT-ATT-GGA-CGC-TTT-ACG-GAC-AAC-ATC-CTG-AAT-GCG 3'
 —S-ATG-CTC-AAC-TCT GGC-AAT-TCT-GCT-CCG-TTA-GTA-CGT-ATA-TAA-CCT-GCG-AAA-TGC-CTG-TTG TAG-GAC-TTA-CGC-S —
 1 2

FIG.17A

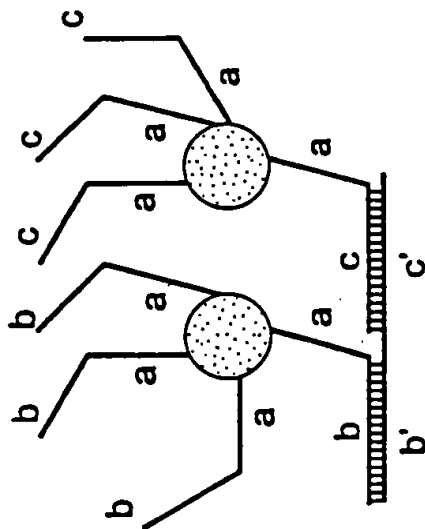


FIG.17B

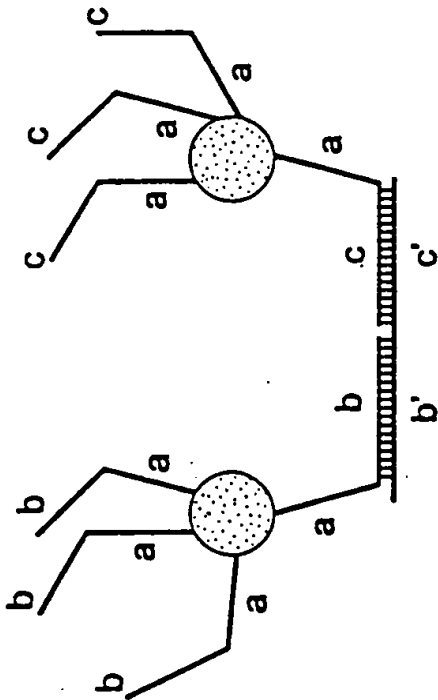


FIG.17C

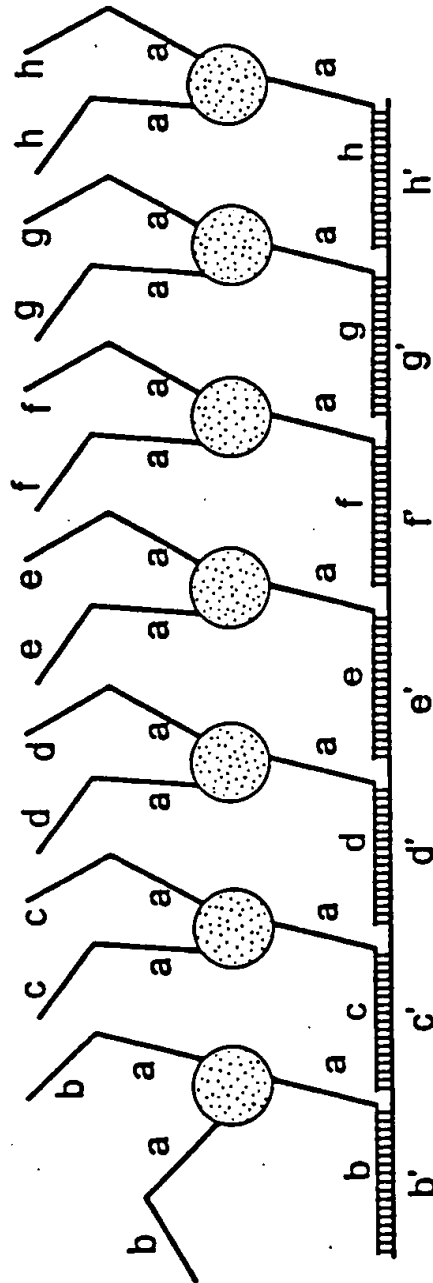


FIG.17D

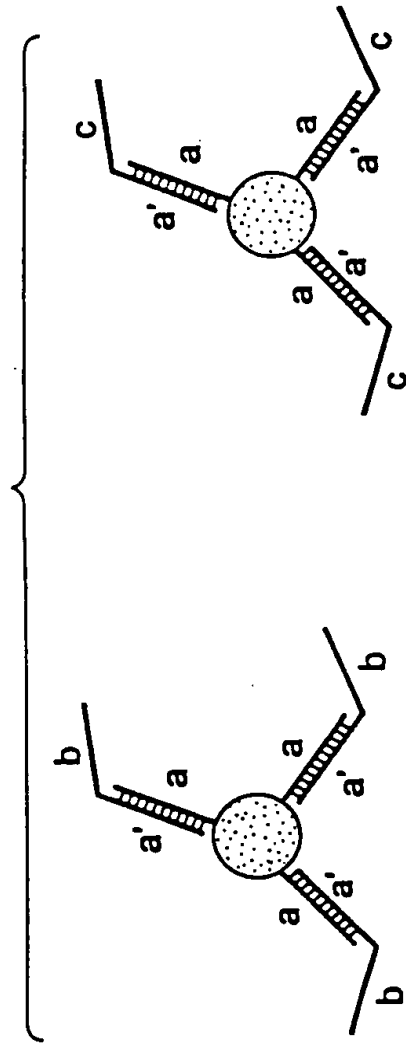


FIG.17E

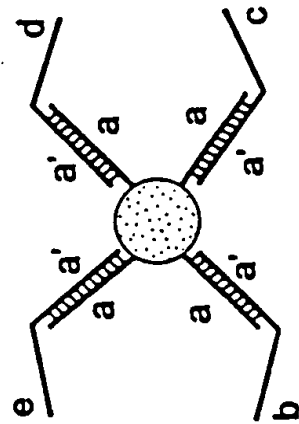


FIG.18

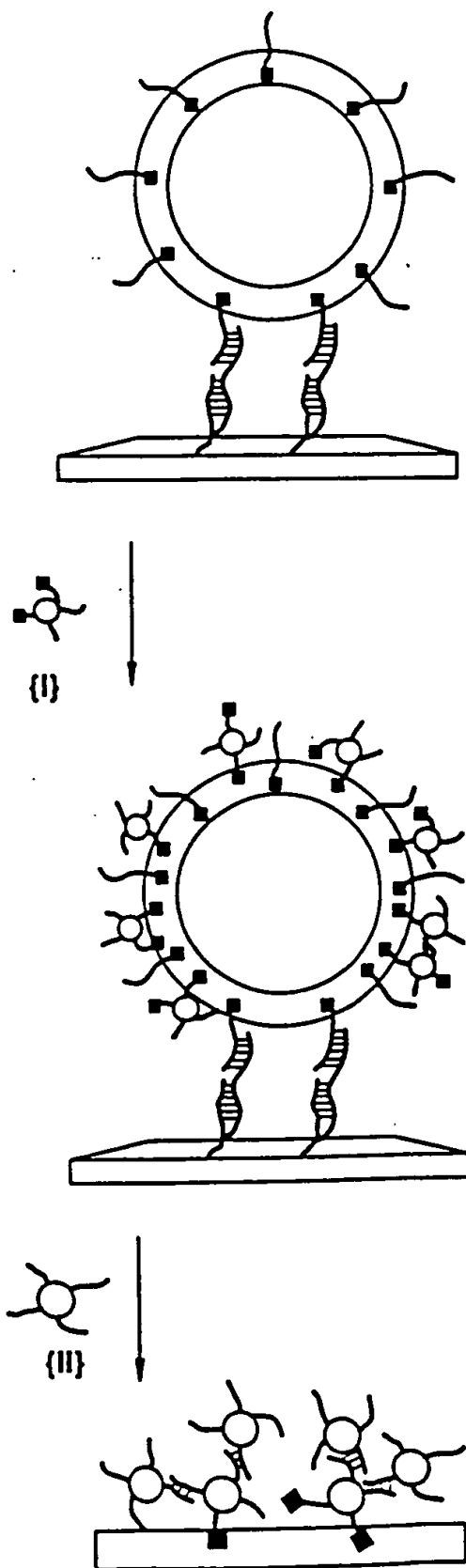


FIG.19A

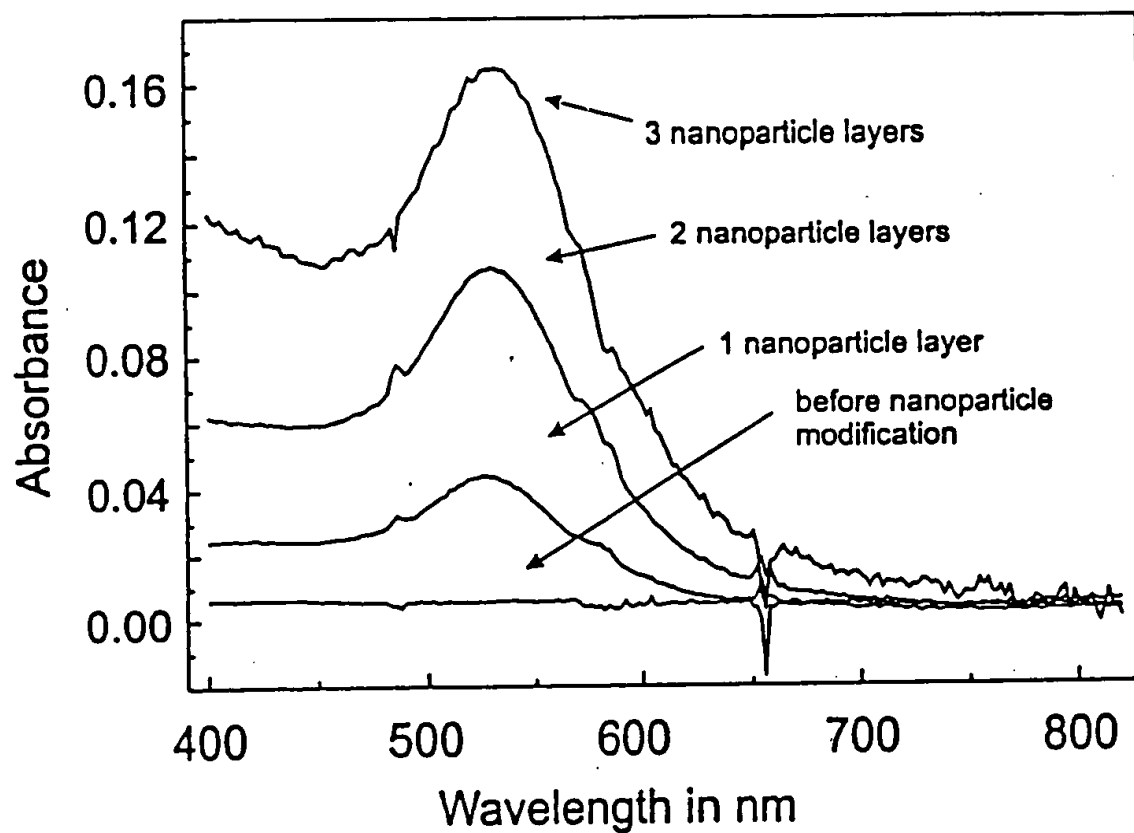


FIG.19B

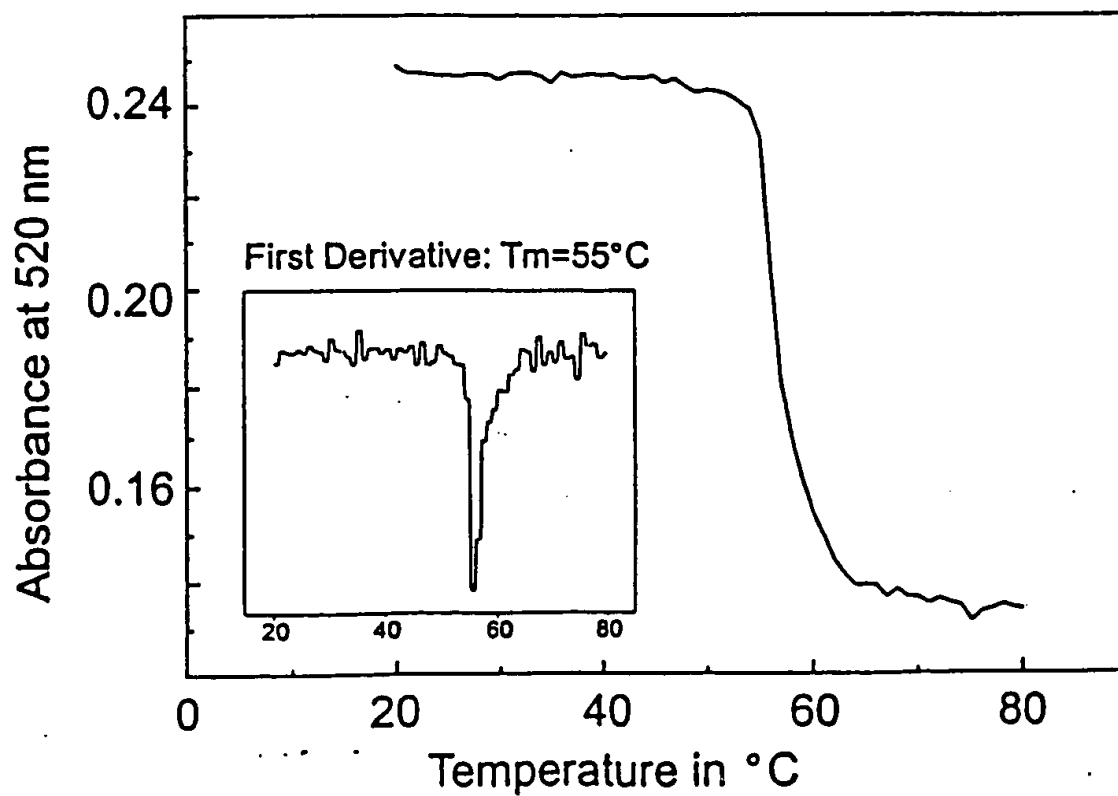


FIG.20A

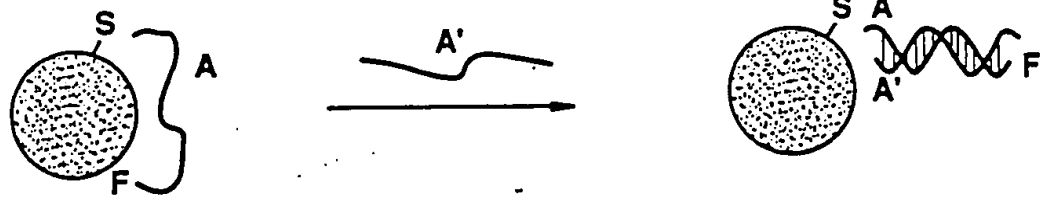


FIG.20B

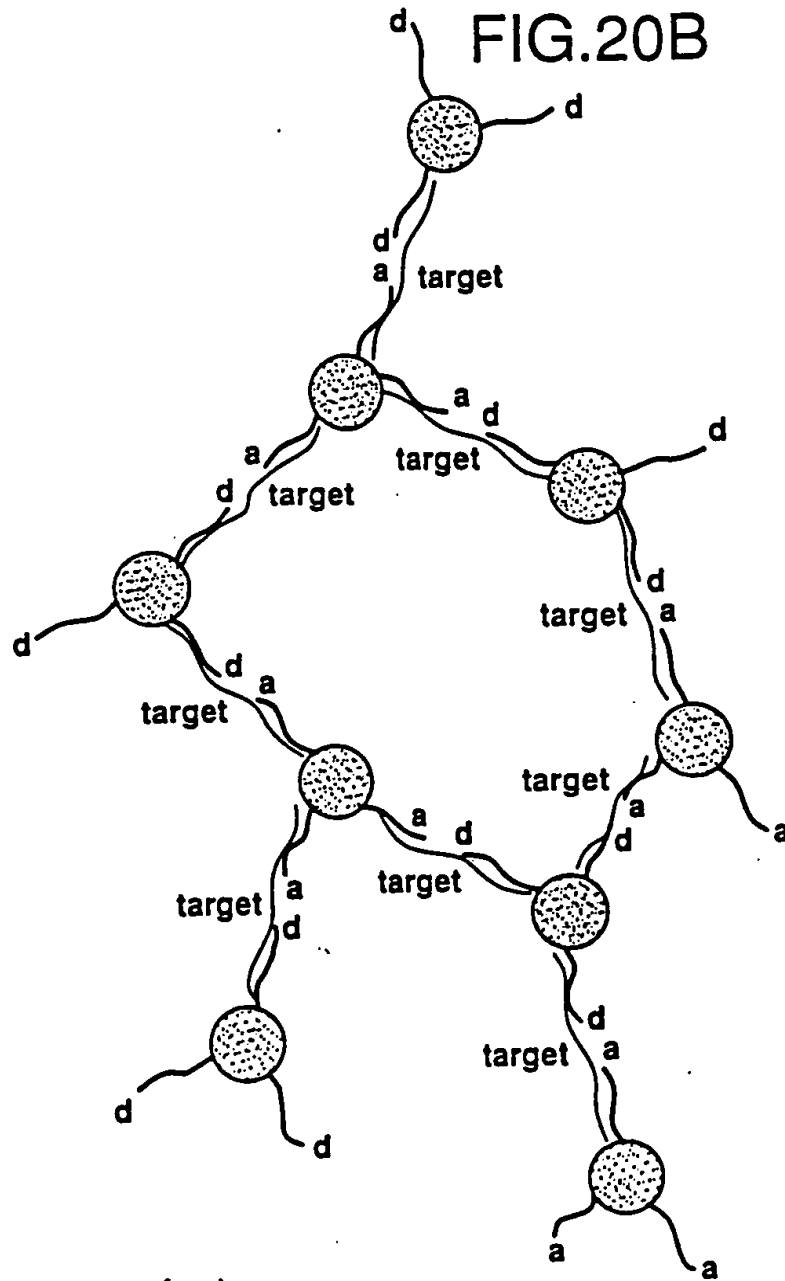
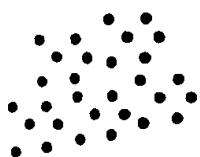


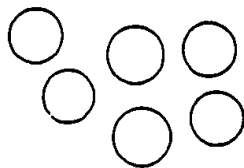
FIG. 20A

Oligonucleotide
modified Au
nanoparticle probes



Red

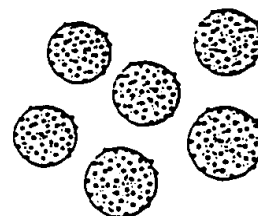
Fluorophore labeled
oligonucleotide modified
latex probes



White/Fluorescent

Target
Oligonucleotide

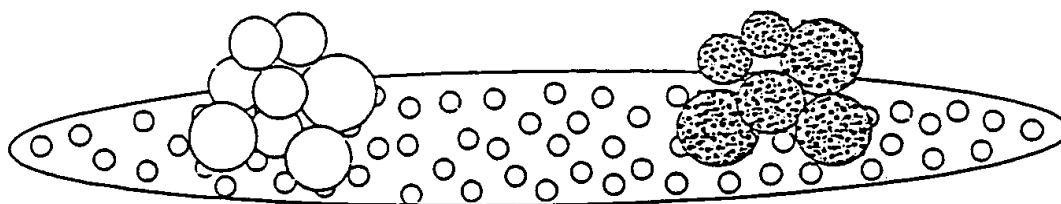
Au/Latex hybrid



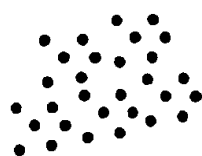
Pink/Non-fluorescent

No Target
Oligonucleotide

Target
Oligonucleotide



All Au probes pass
through membrane

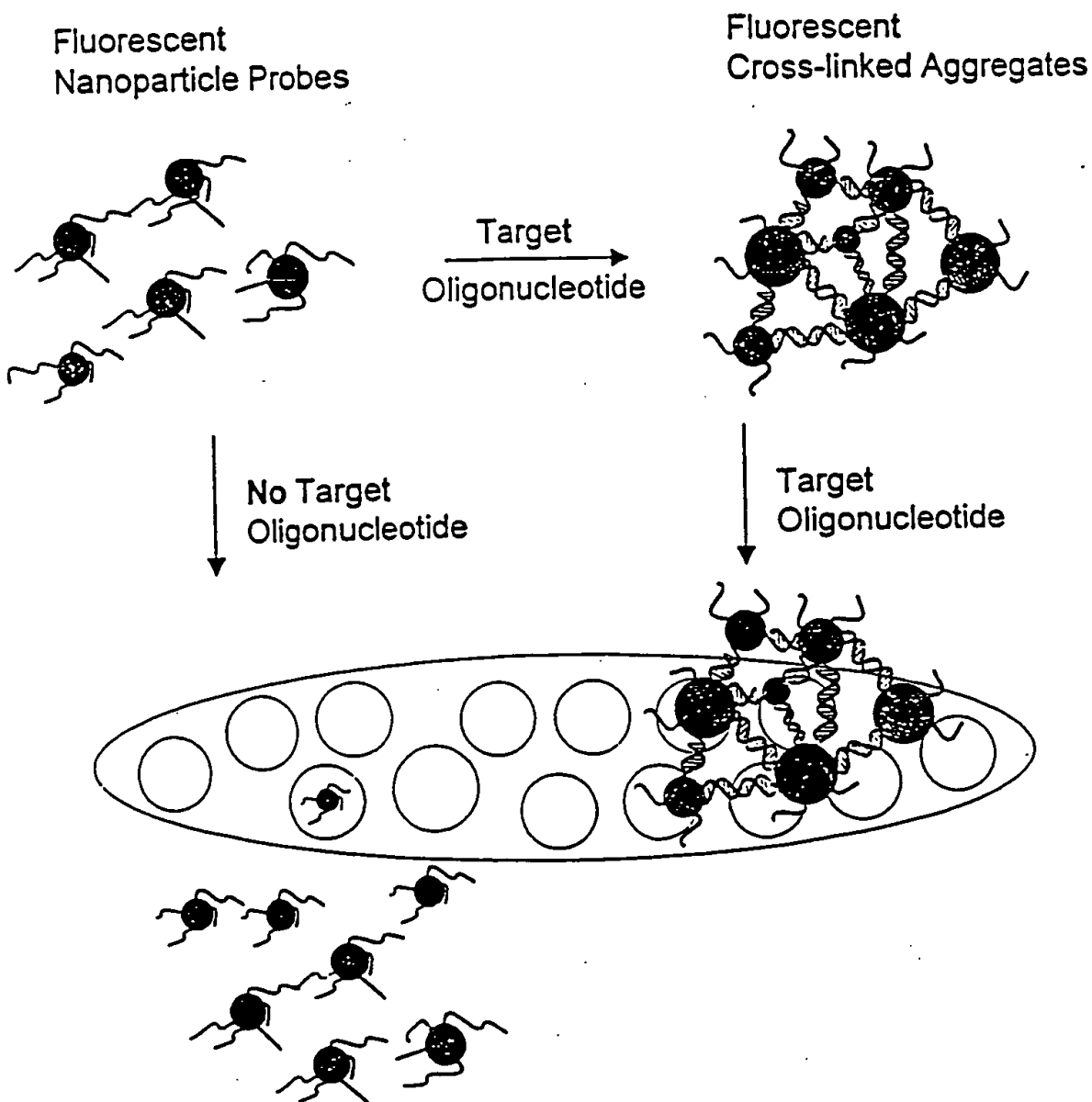


Excess Au probes
pass through
membrane



FIGURE 21

FIGURE 22



The fluorescent nanoparticle probes pass through the membrane

The fluorescent cross-linked aggregates are retained by the membrane

Anthrax PCR Product

5' GCG GAT GAG TCA GTA GTT AAG GAG GCT CAT AGA GAA GTA ATT AAT
3' CGC CTA CTC AGT CAT CAA TTC CTC CGA GTA TCT CTT CAT TAA TTA

TCG TCA ACA GAG GGA TTA TTG TTA AAT ATT GAT AAG GAT ATA AGA AAA
AGC AGT TGT CTC CCT AAT AAC AAT TTA TAA CTA TTC CTA TAT TCT TTT

ATA TTA TCC AGG GTT ATA TTG TAG AAA TTG AAG ATA CTG AAG GGC TT 3'
TAT AAT AGG TCC CAA TAT AAC ATC TTT AAC TTC TAT GAC TTC CCG AA 5'

141 mer Anthrax PCR product [SEQ ID NO: 36]

3' CTC CCT AAT AAC AAT [SEQ ID NO: 37]
3' TTA TAA CTA TTC CTA [SEQ ID NO: 38]
Oligonucleotide-Nanoparticle Probes

Blocker Oligonucleotides

3' C CGC CTA CTC AGT CAT CAA TTC CTC CGA GT [SEQ ID NO: 39]
3' A TCT CTT CAT TAA TTA AGC AGT TGT [SEQ ID NO: 40]
3' TAT TCT TTT TAT AAT AGG TCC CAA TAT [SEQ ID NO: 41]
3' AAC ATC TTT AAC TTC TAT GAC TTC CCG AA [SEQ ID NO: 42]

FIGURE 23

00026900-101304

The diagram illustrates the detection of a target using a satellite probe. It consists of three main components: a 'Satellite Probe', a 'Target', and a 'Detection Signal'. The 'Satellite Probe' is depicted as a circular structure with multiple protruding elements. The 'Target' is represented by a horizontal line. The 'Detection Signal' is shown as a cluster of probe-target complexes, indicating a positive detection result.

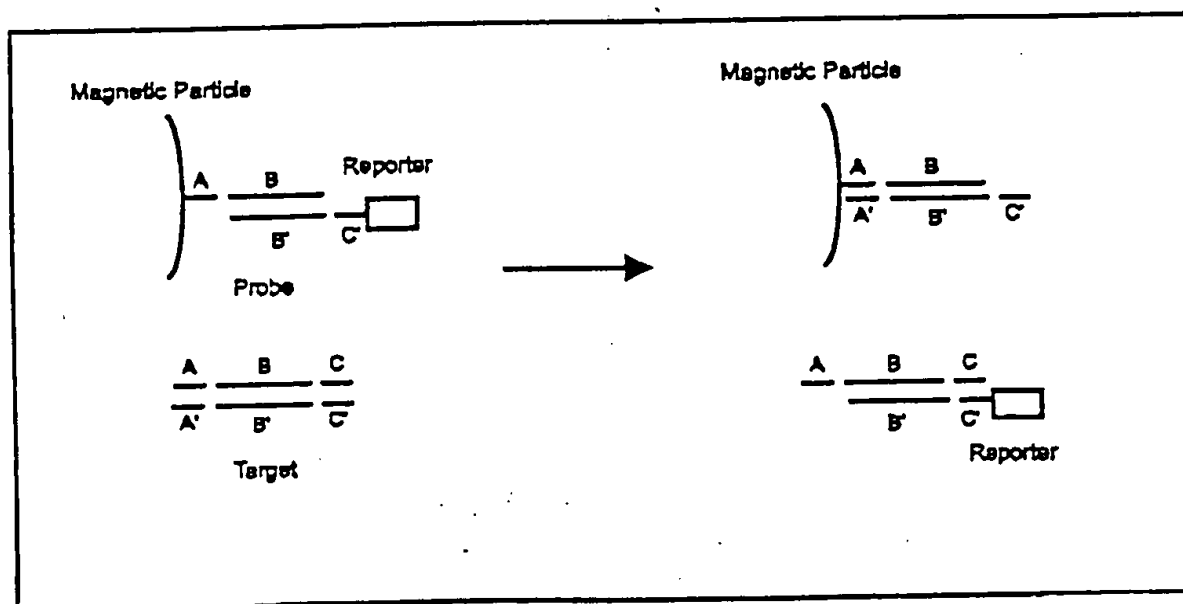
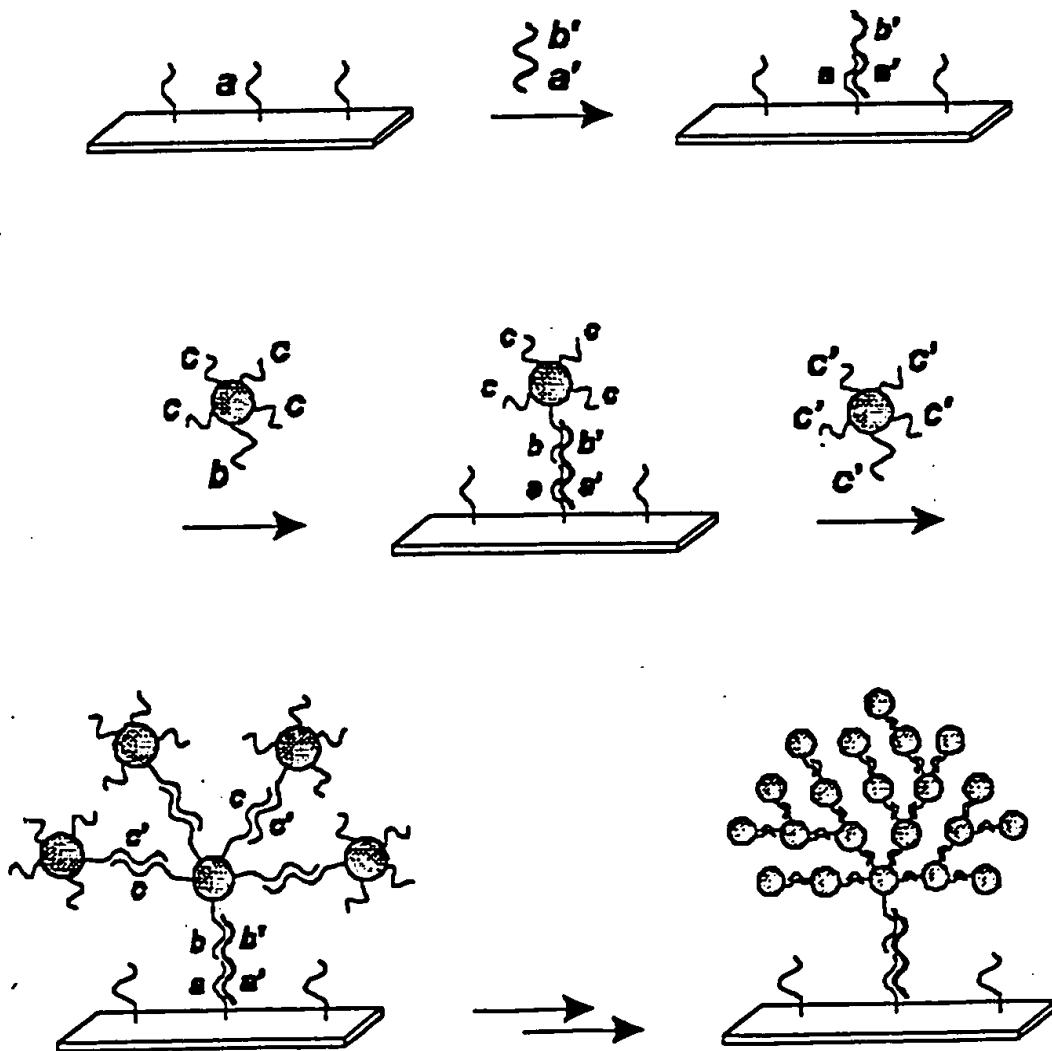
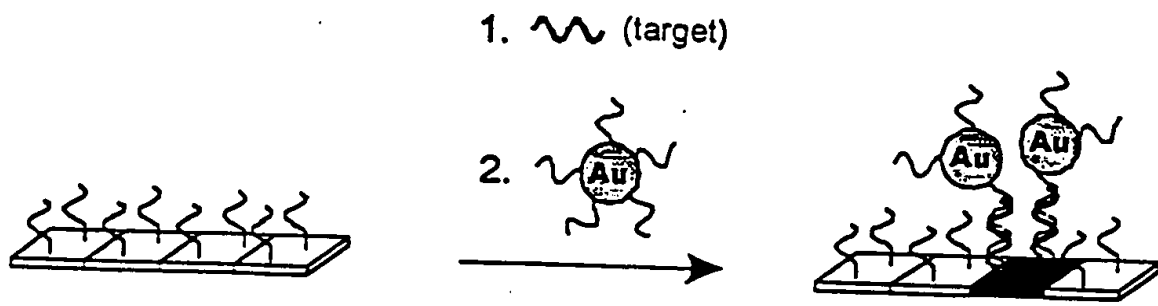
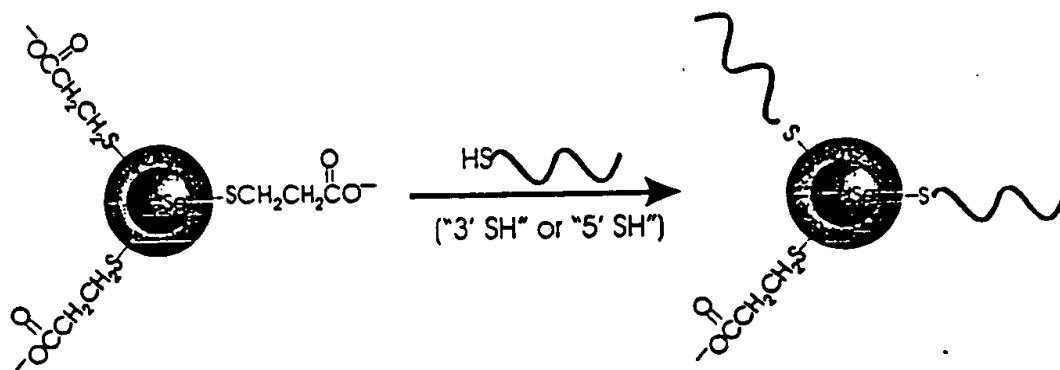


FIGURE 24



A



B

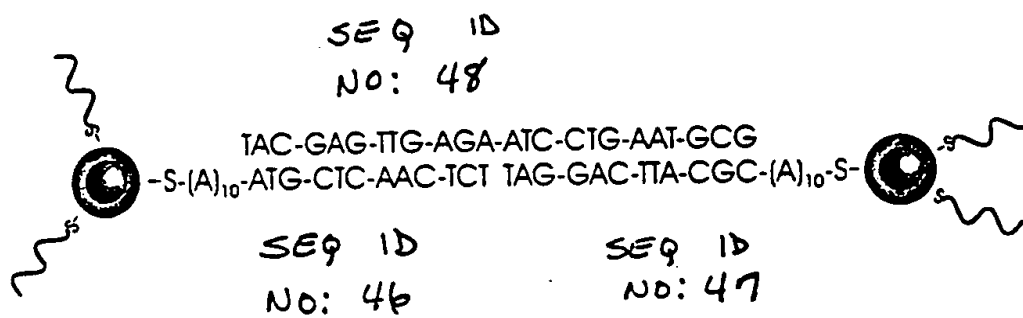


FIGURE 26

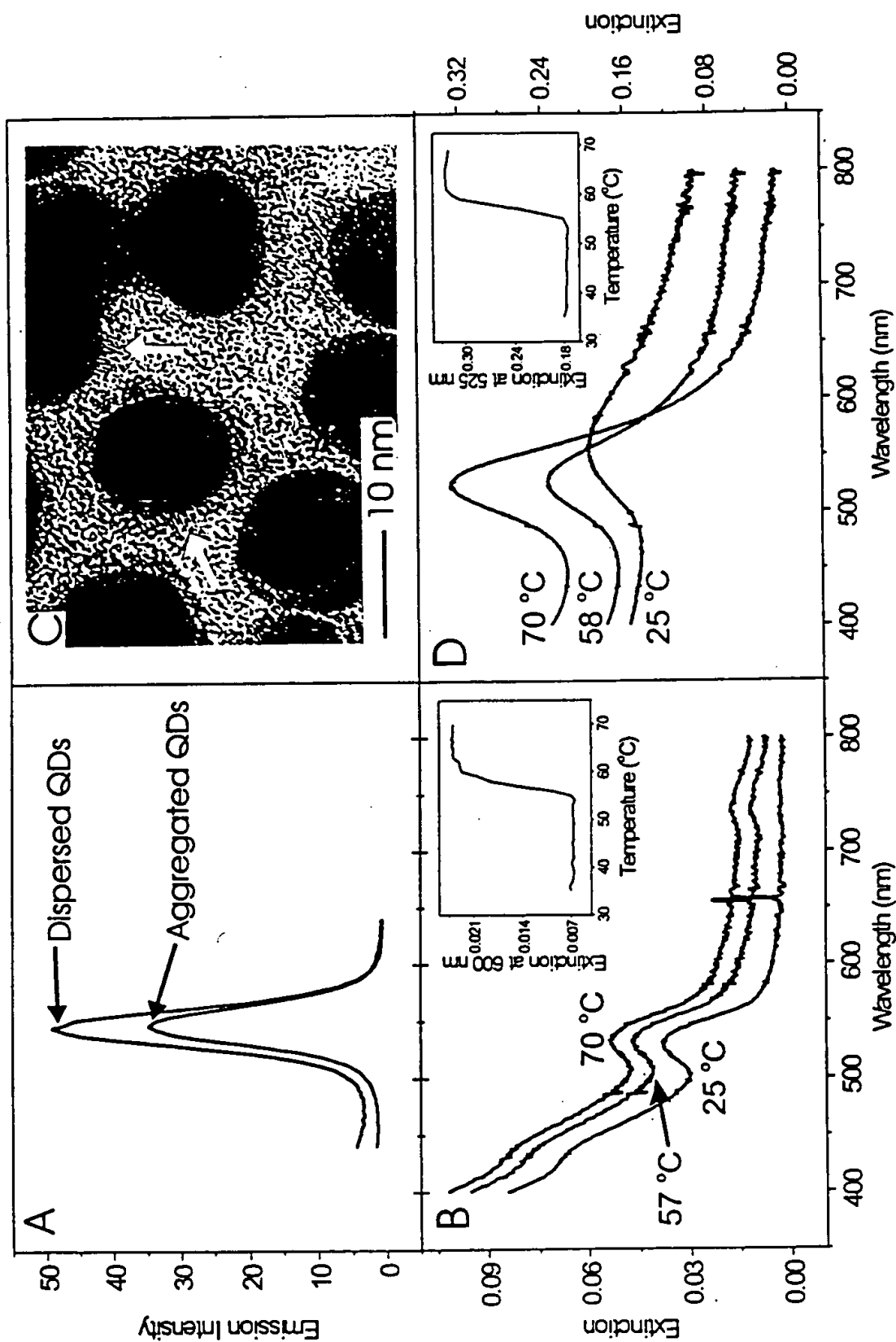


FIGURE 2

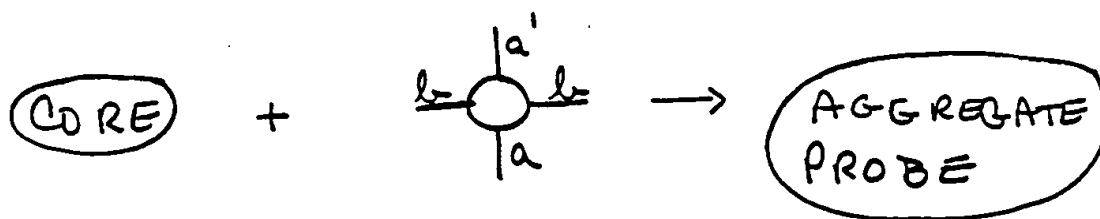
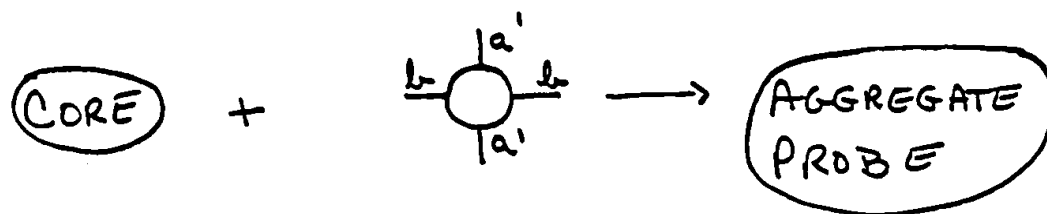
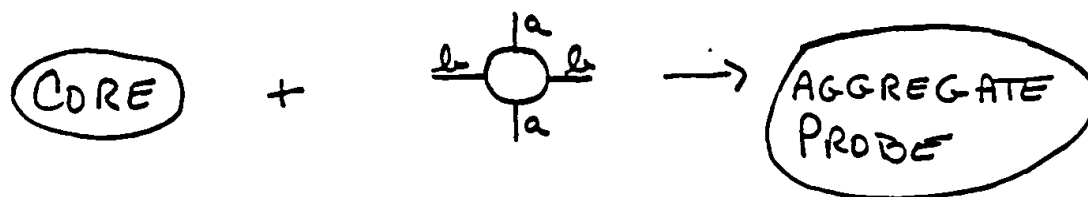
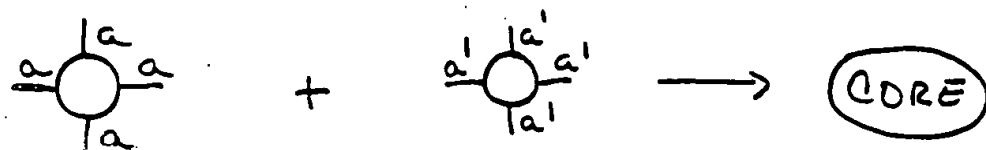


FIGURE 28A

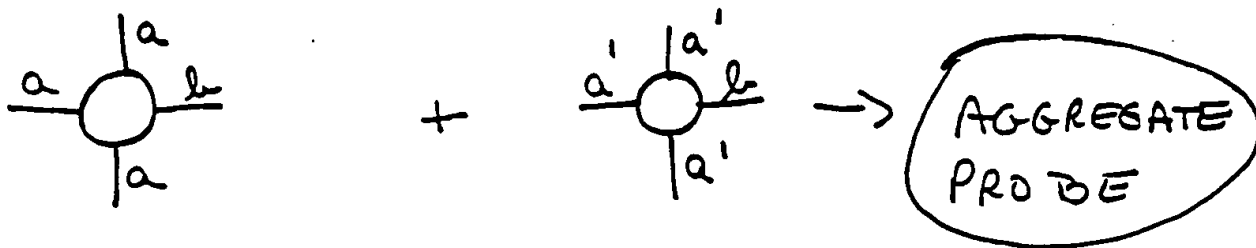
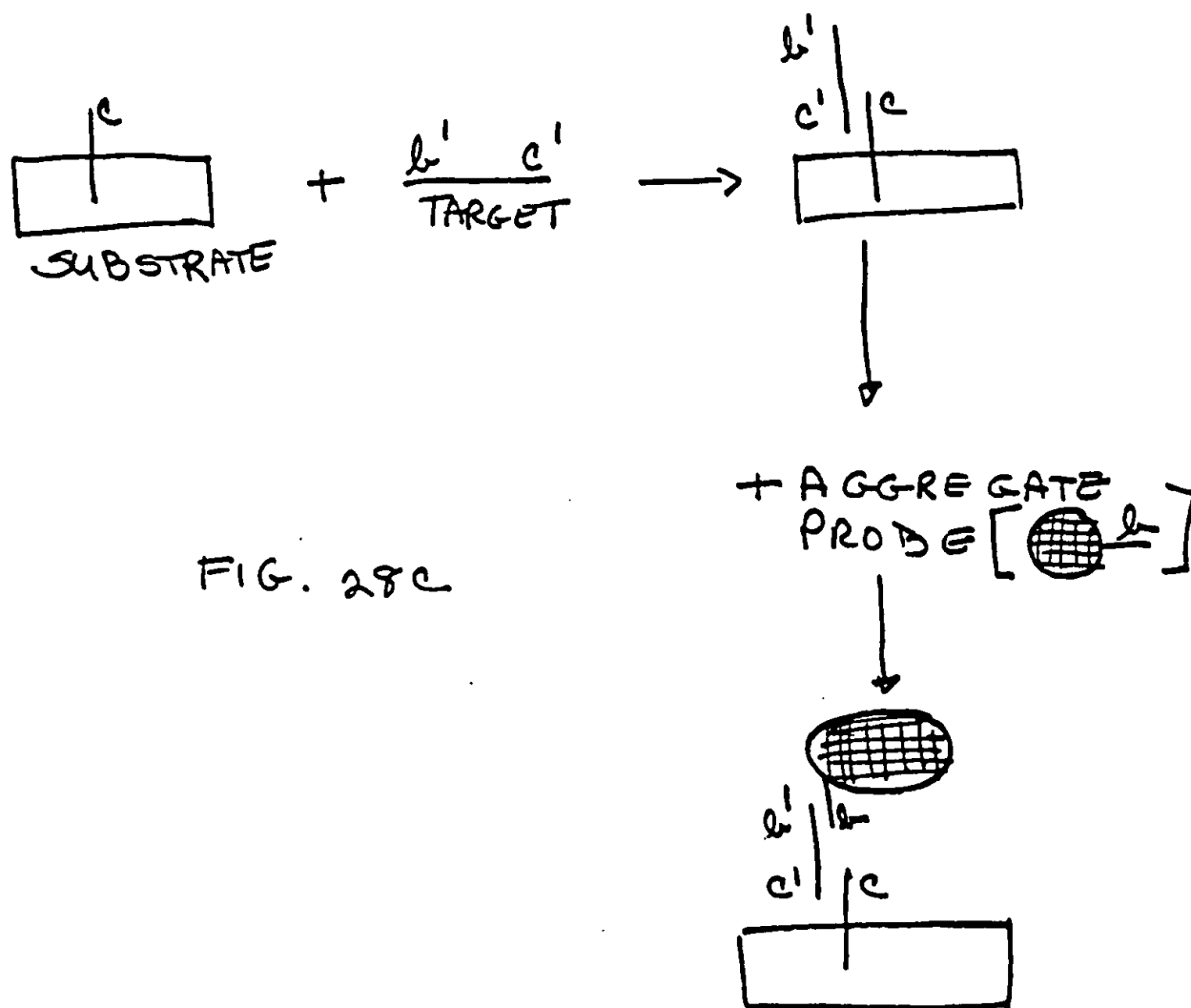
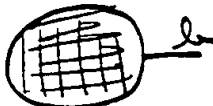



FIGURE 28 B




 AGGREGATE
 PROBE

+ $\frac{b' \quad c'}{\text{TARGET}}$ + 

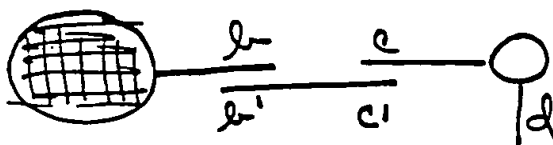
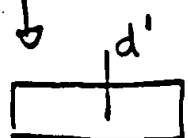
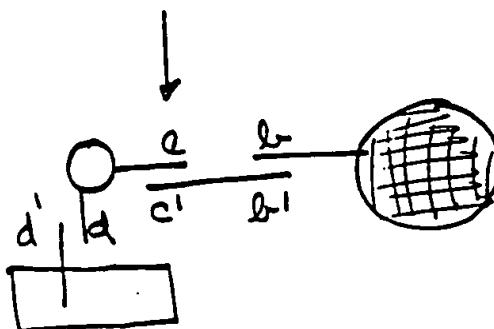


FIG. 28D

REMOVE EXCESS
 BY CENTRIFUGATION

+  SUBSTRATE



00976900-101201

FIGURE 28E

FIGURE 28E

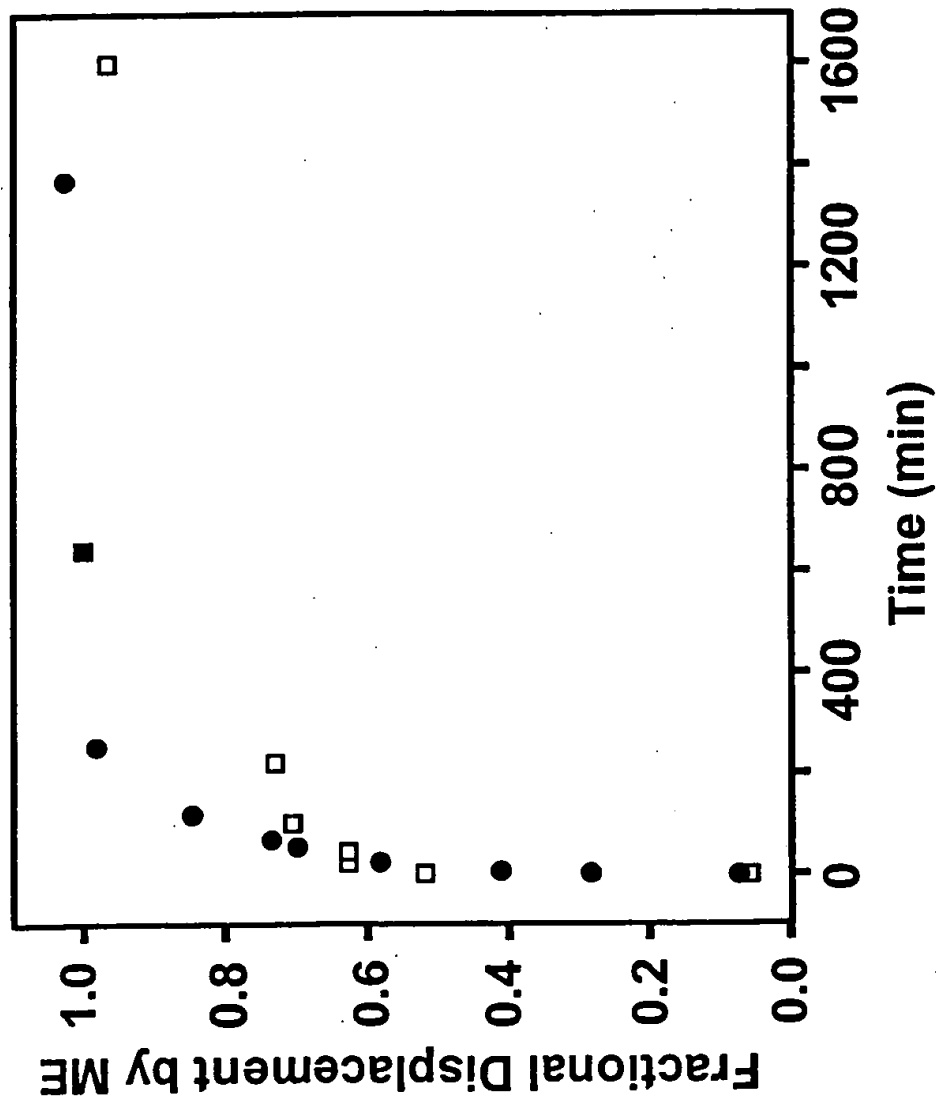


Figure 29

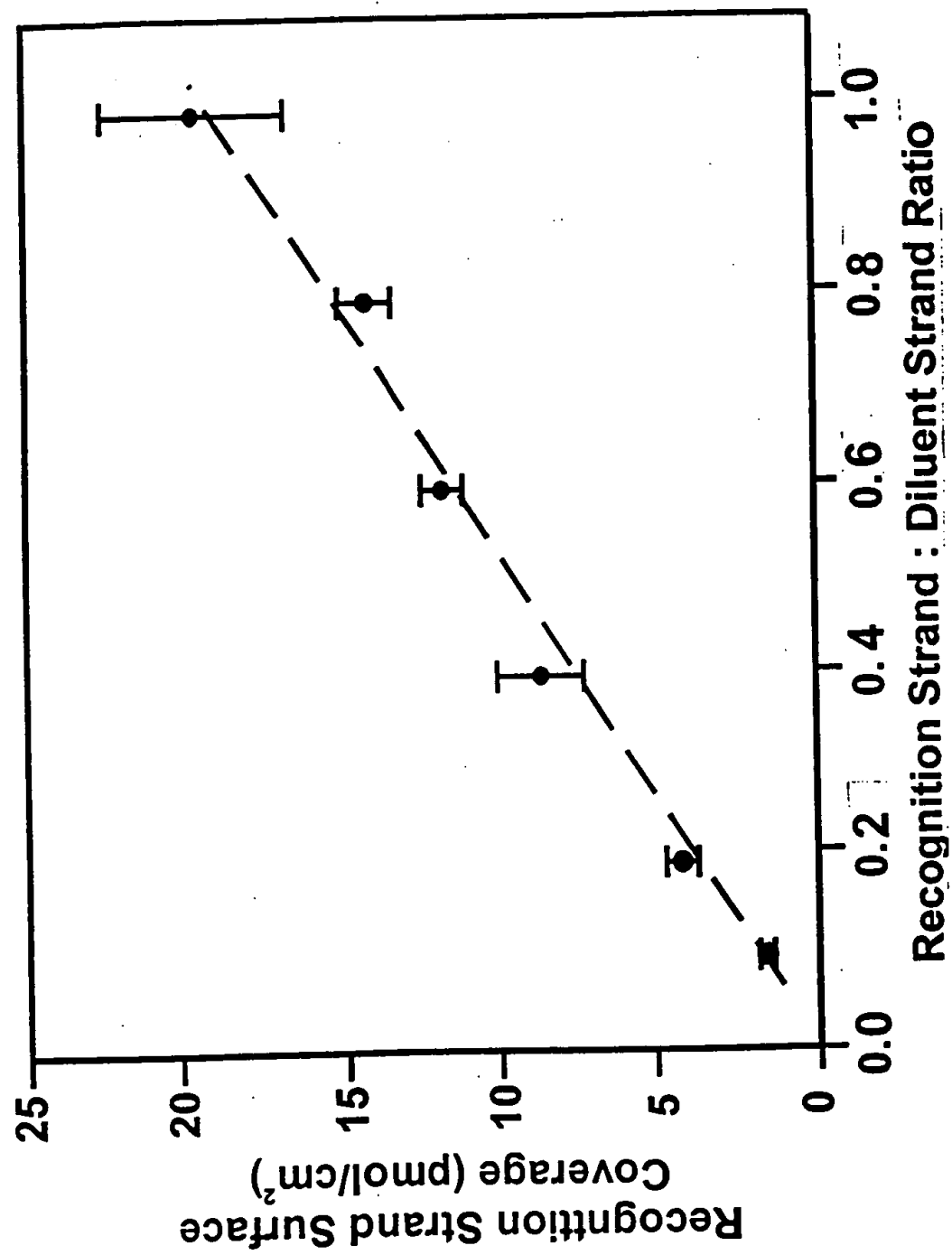


Figure 30

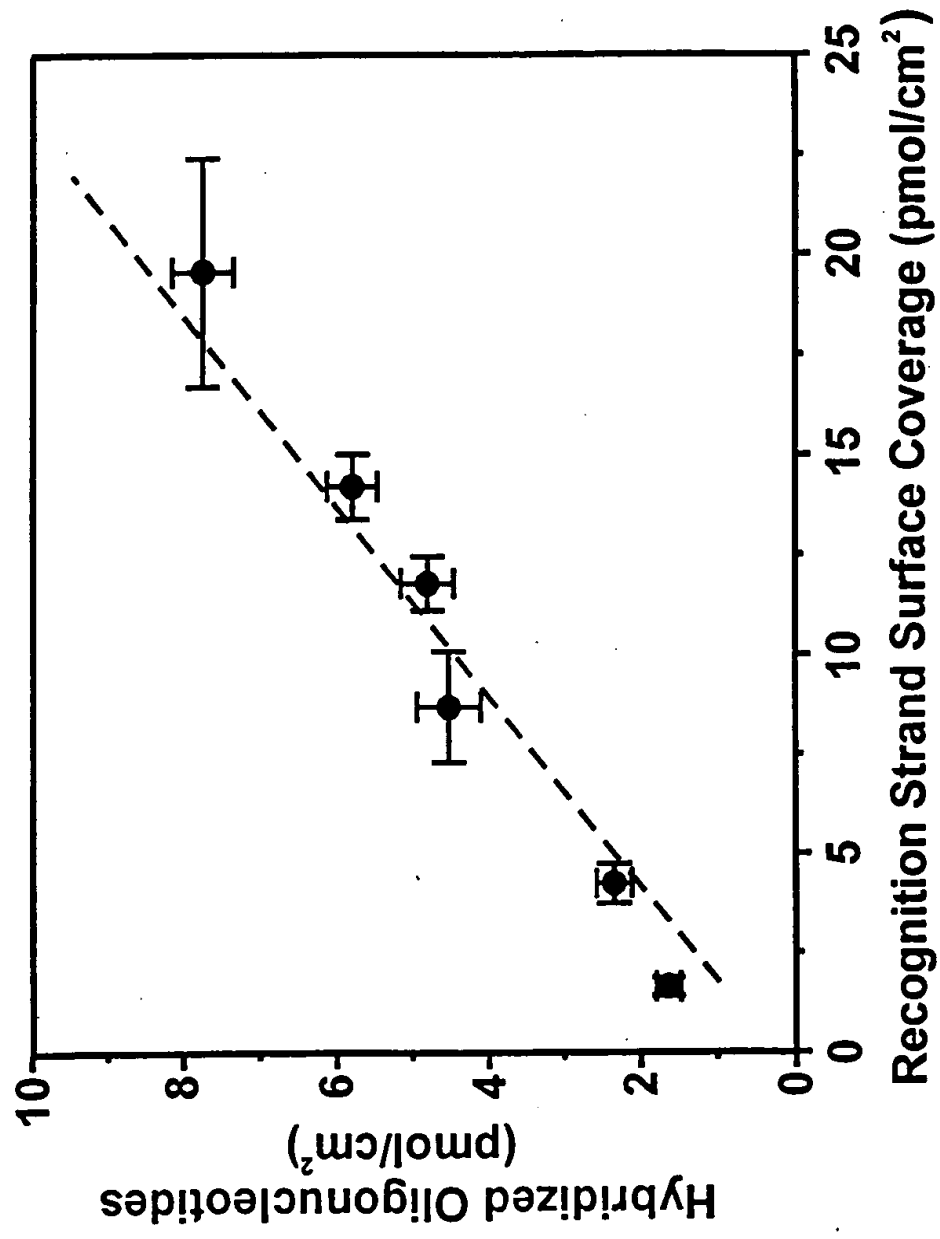


Figure 31

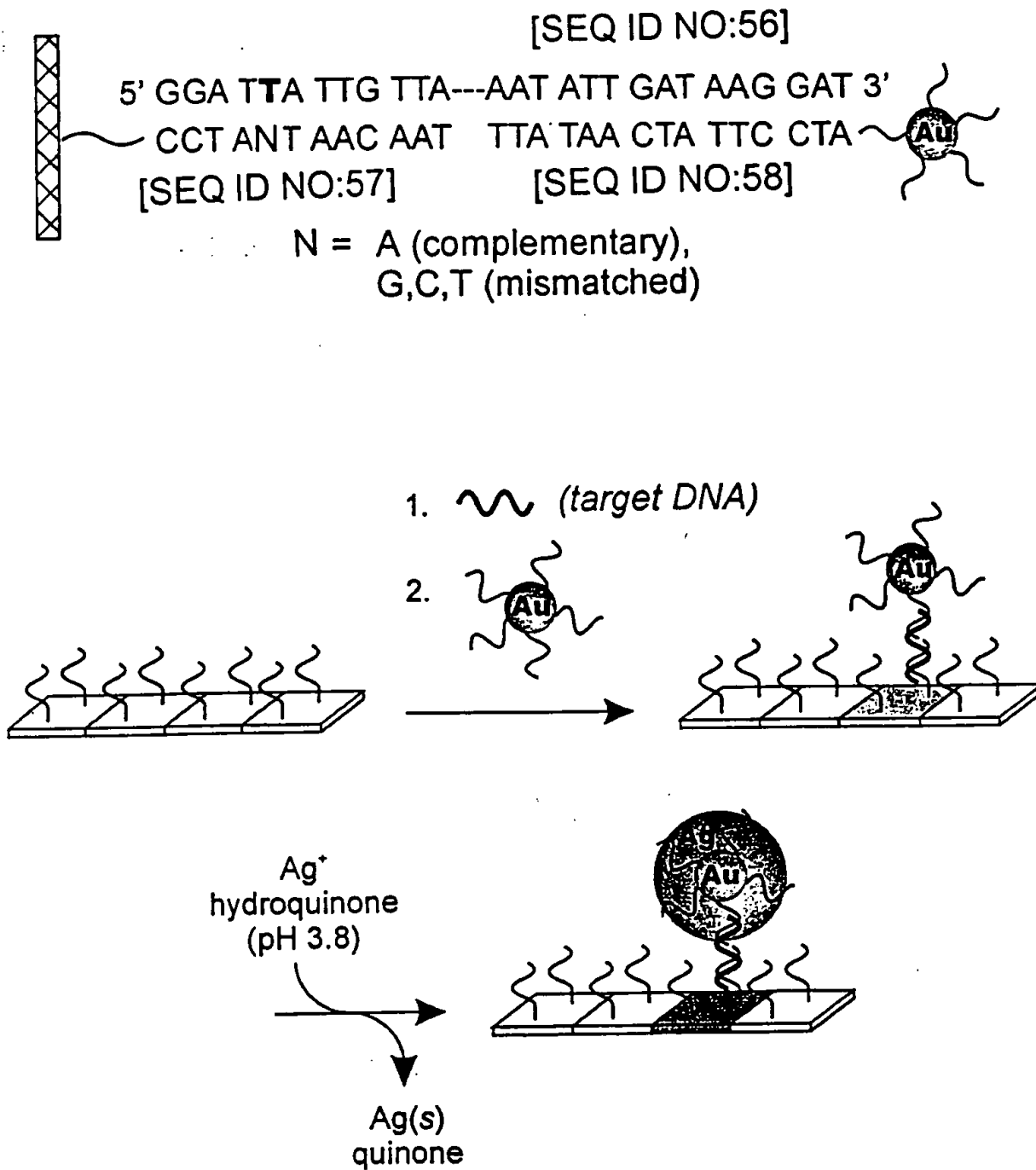


Figure 32

09976900-101301

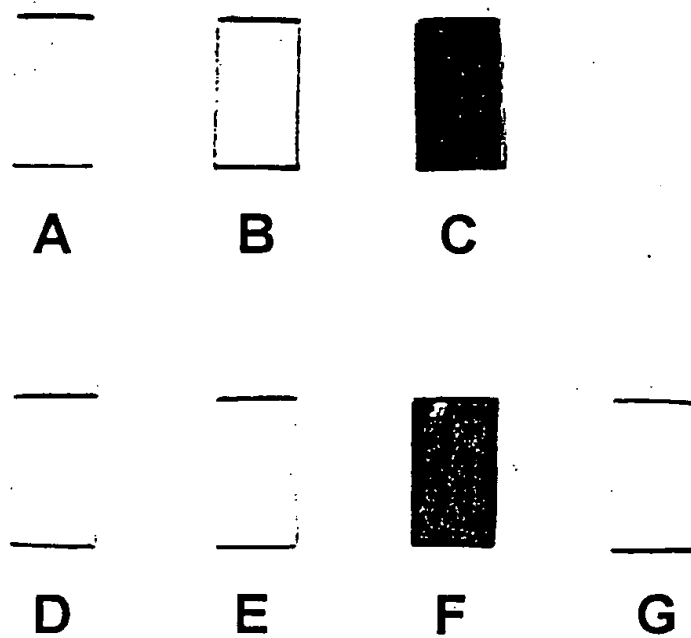


Figure 33

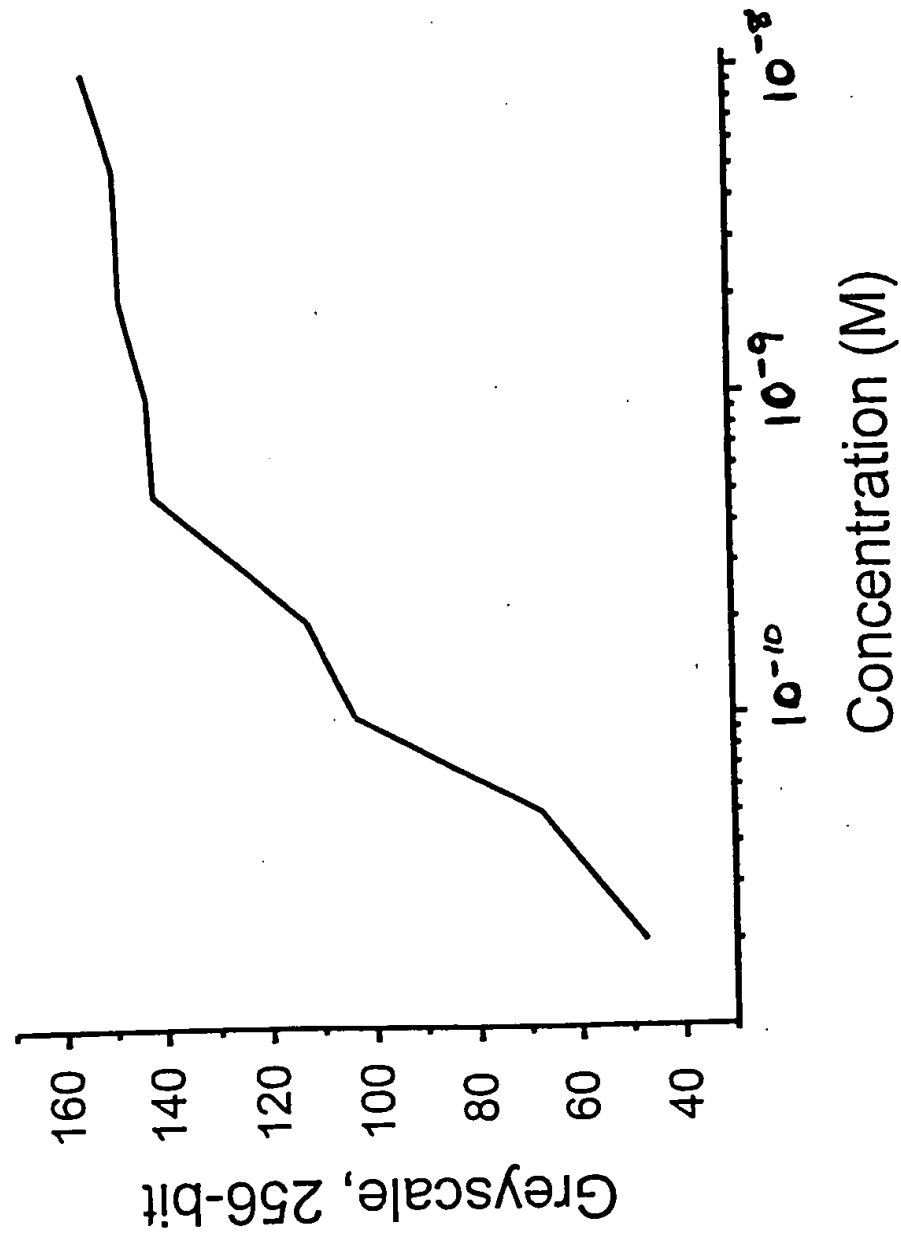


Figure 34

TOEFOF" 00694660

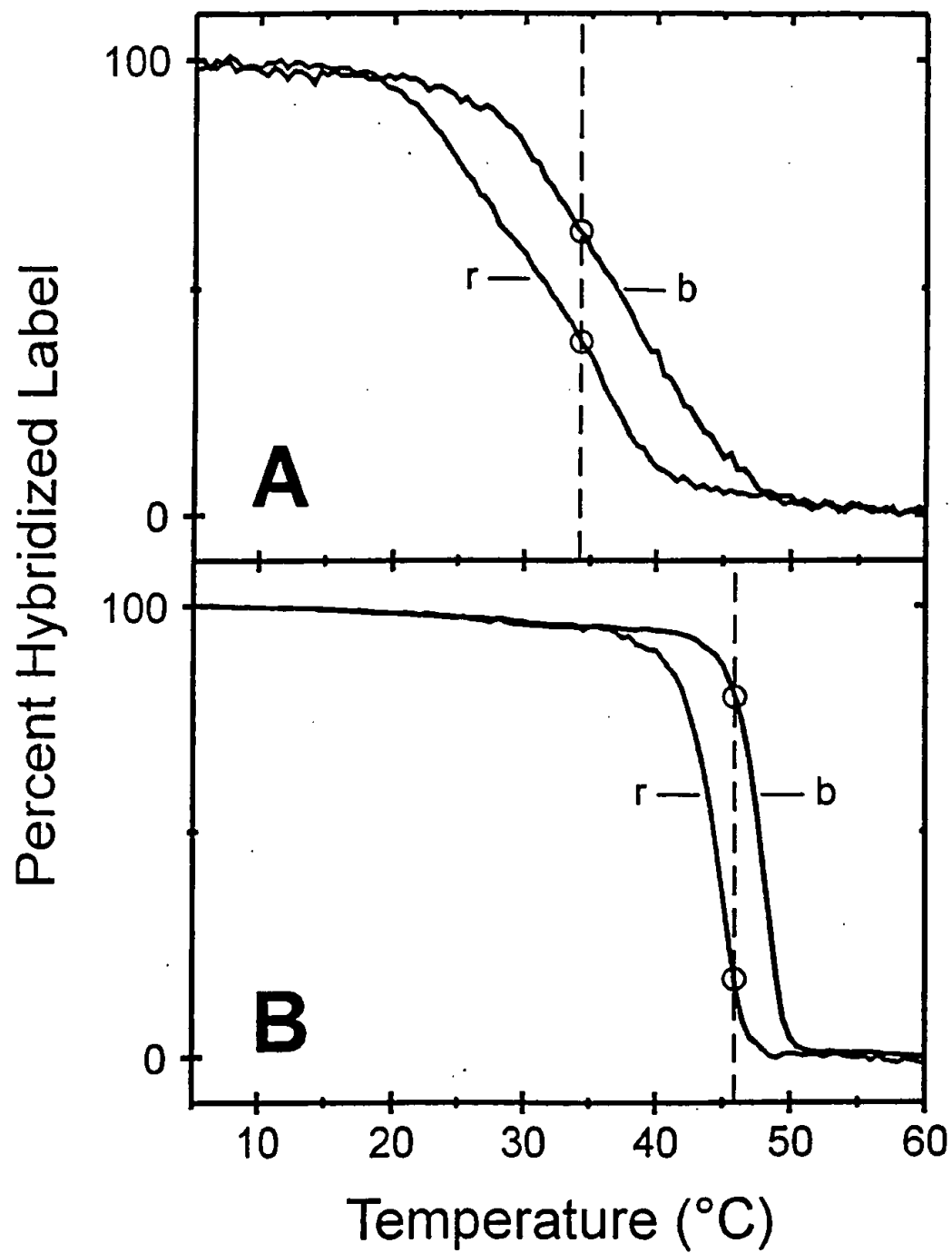


Figure 35

00976900-101201
FOI201

FIG. 36A

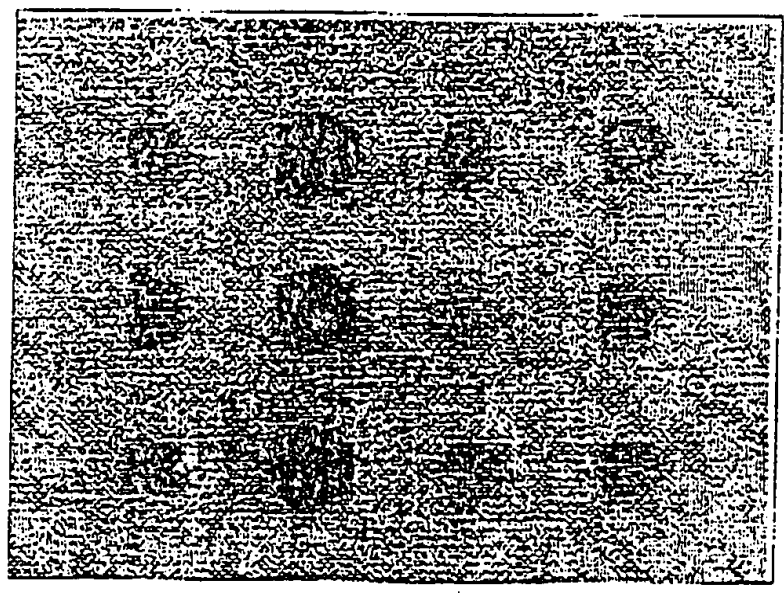
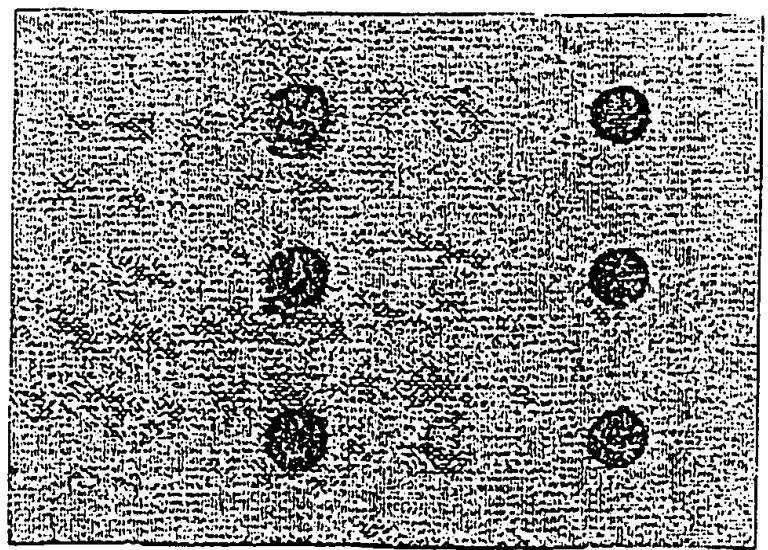


FIG. 36B



C A T G

FOOT-0009260

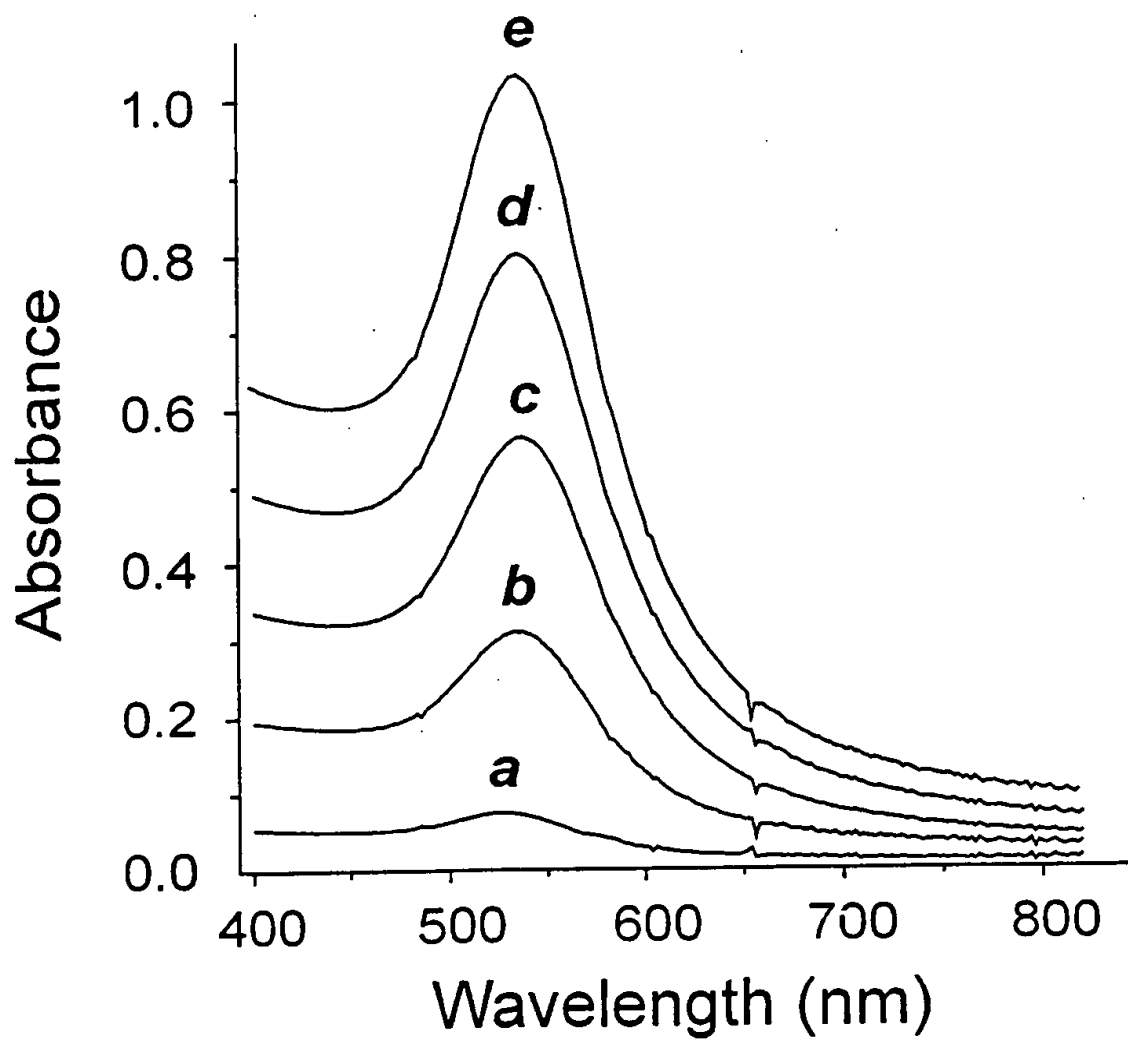


Figure 38A

FOOT" 00692660

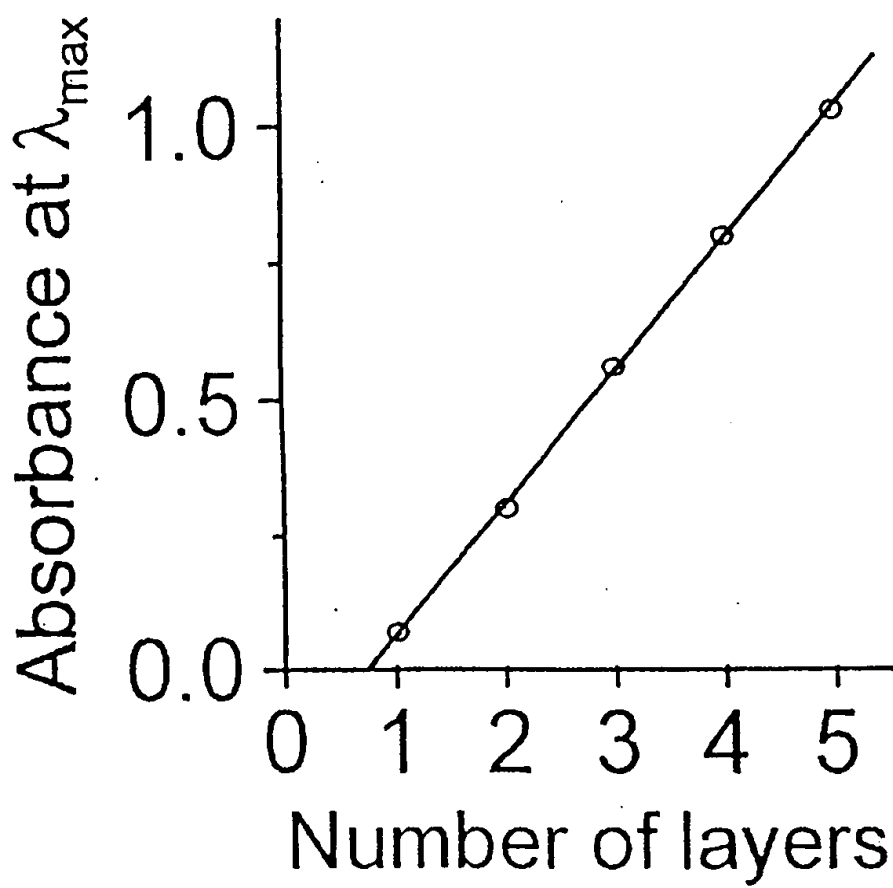


Figure 38B

09976900.401201

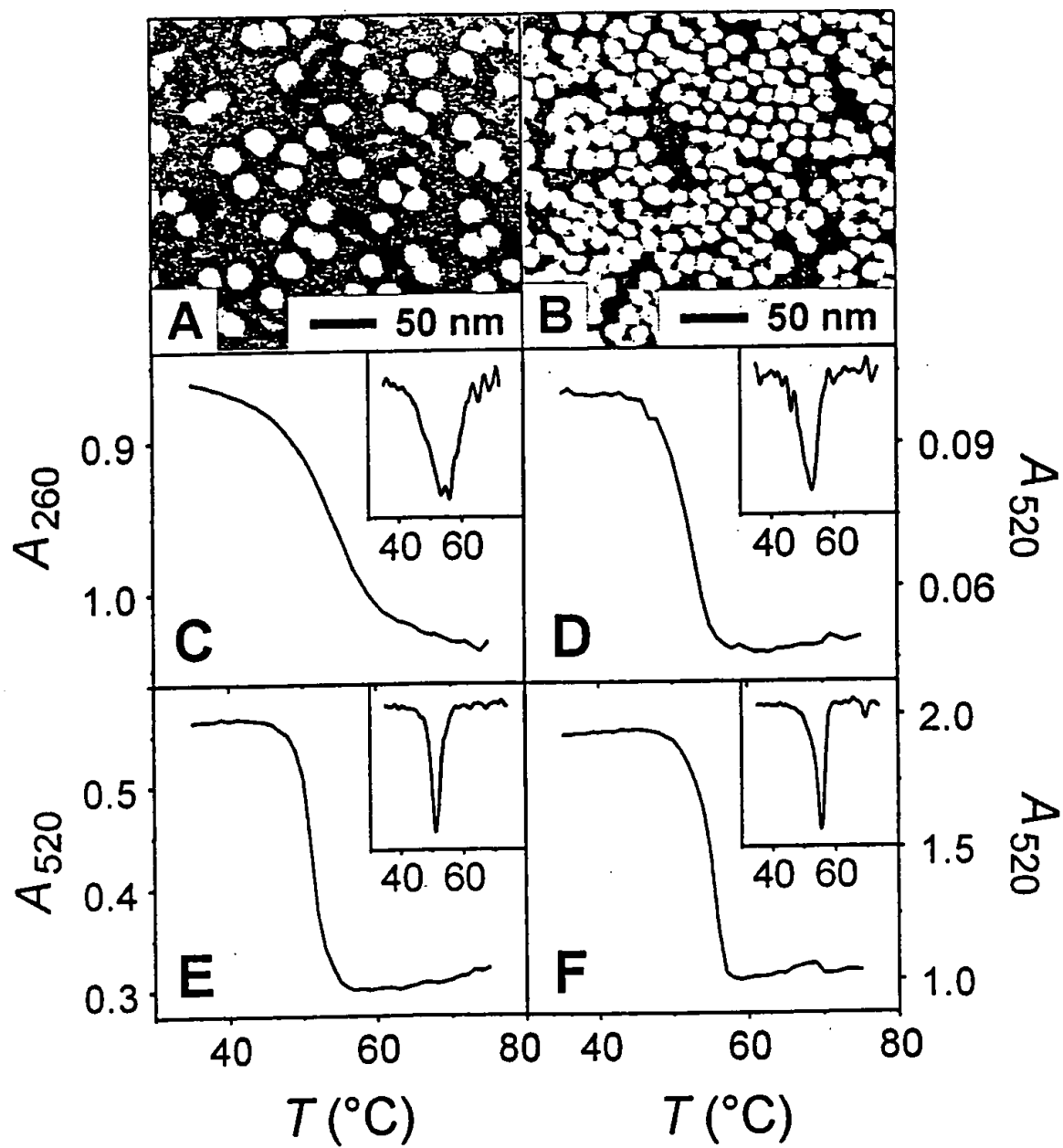


Figure 39

Year	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	

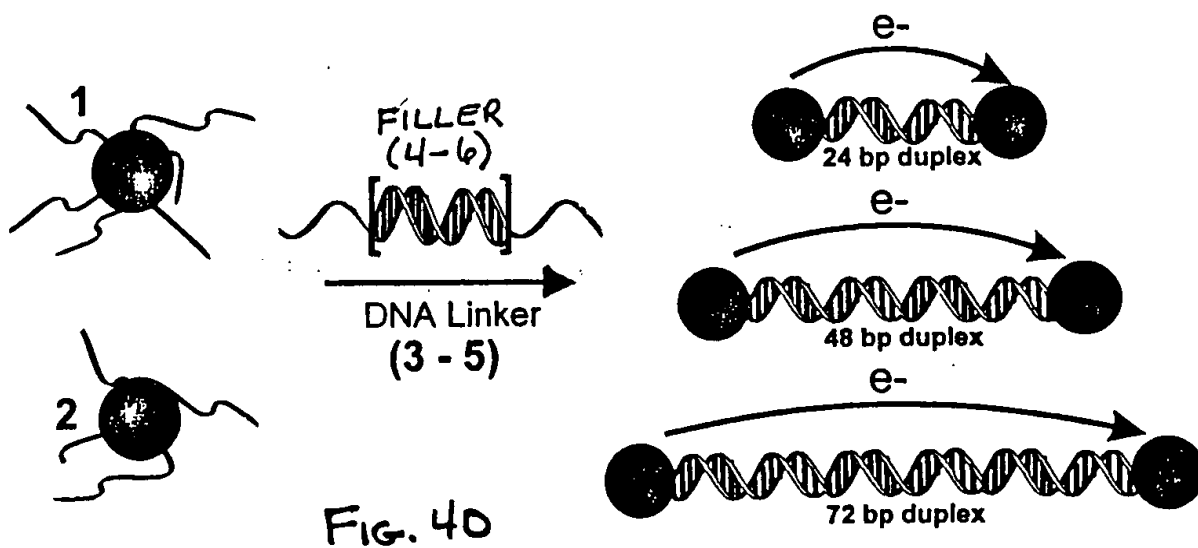


FIG. 40

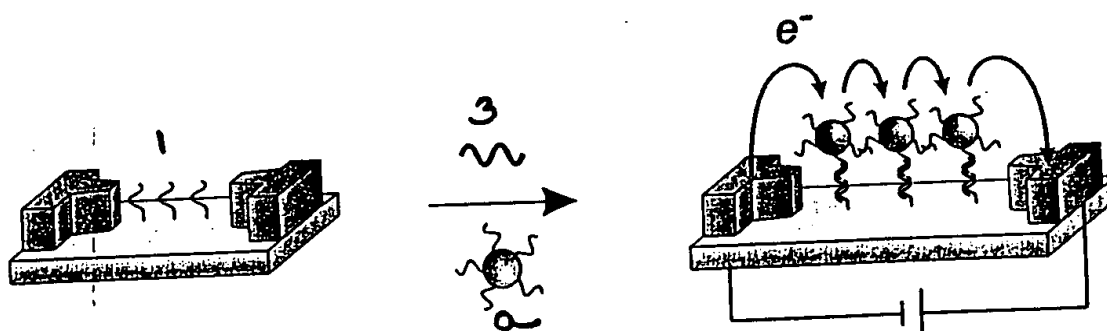


FIG. 41